What do scientifically-oriented astrologers believe to be the scope of science as an explanation of astrology?

A cosmological and philosophical exploration.

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Master's Degrees by Examination and Dissertation

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Abstract

The academic study and approach toward astrology is mixed. It can be regarded as either a science, divination, a combination of both or something else entirely. This dissertation will give philosophical and cosmological context to claims made by those who treat astrology as either partially or entirely scientific. Specifically, this paper will evaluate the extent to which science as a tool can adequately explain astrology in different cosmological perspectives. The intention of this research is also to examine whether different protagonists in the discussions about astrology's scientific status hold different views and definitions of 'science', and if any differences can be attributed to contrasting cosmological views. Three main themes that are explored in this paper are: the essence of astrology, intuition and the nature of the cosmos. This paper also displays the outcomes of primary research in the form of interviews with some of the leading figures in the scientifically-oriented astrology community. The research found that there were disagreements on astrological fundamentals even within the small scientifically-oriented community but these disagreements do not necessarily imply that science is an inadequate tool to explain astrology.

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Introduction

Overview

This dissertation explores, through a philosophical and cosmological lens, the claims made by scientifically-oriented astrologers on the scope of science as an explanatory tool for astrology. Throughout, the paper will also be visiting the many debates and critiques arising on the topic of astrology and science. Due to the fact astrology makes factual claims, it has faced the derision of countless critics who ask for scientific evidence of the claims.[1] Many astrologers have, either in response to these critiques or for their own other reasons, chosen to test astrology through scientific methods in an attempt to validate it; this dissertation is centred around those astrologers. I am researching to what extent scientifically-oriented astrologers believe science can account for astrology and consequently, what these beliefs reveal about their personal cosmologies and philosophies. For the purpose of this research, if an astrologer has published quantitative tests of astrology, I will regard them as scientifically-oriented, although (as will emerge below) the astrologer may not regard themselves as entirely scientifically-oriented.

Astrology has existed for thousands of years.[2] Despite the longevity, it faces derision as demonstrated by the quote 'we believe that the time has come to challenge directly and forcefully, the pretentious claims of astrological charlatans.'[3] This quote, signed by one hundred and eighty-six leading scientists, including an impressive eighteen Nobel Prize winners, highlights some of the focus points of the discussion within this paper. A couple sentences prior, they identify the problem as being that astrology is based on 'magic and

[1] Bart Bok et al., 'Objections to Astrology', *The Humanist* 35. 5 (1975): 4-6
[2] James Tester, *A History of Western Astrology* (Woodbridge, UK: The Boydell Press, 1987), p.13.
[3] Bart Bok et al., (1975): 4-6

superstition'.[4] This indicates two assumptions are being made: 1) if there were any truth to astrology it would be revealed by scientific analysis (implying that the cosmos as a whole is entirely comprehended by science) and 2) astrology has been entirely disproved by science. These two assumptions form the basis for much of the discussion to be followed in the paper.

This paper is concerned specifically with western astrology most of which assumes there is a correlation between above (the skies) and below (the earth).[5] As such, astrology in other regions is unlikely to be compatible with the analysis presented in this paper. From the end of the 17th century, astrology's reputation began to drastically deteriorate due to the commencement of the scientific revolution. Hence, in the conclusion of his history of Western astrology, Tester described the end of the 17th century as astrology's 'second death'.[6]

In addition, astrology is susceptible to the criticism that it is culturally determined rather than inherently true due in part to the wide varieties of ways it is practiced around the world. In other words, it is shaped by a person's cosmology rather than there being one absolute truth. Liz Greene writes that 'Astrology cannot be explained by any single theoretical framework, but must be viewed within a specific religious, philosophical, social and political background and, equally importantly, from the perspective of individual practitioners working within a particular milieu'.[7] The lack of theoretical framework thus creates doubt about astrology's ability to produce truth. However, Phillipson offers a compressive exploration of the three main theories of truth within Western epistemology and finds astrology harmonious with all three,

[4] Bart Bok et al.,, (1975): 4-6
[5] Gerhard Mayer, 'Astrology and Science: A Precarious Relationship Part 1: Historical Review of German Astrology in the 20th Century and Current Developments', J*ournal of Scientific Exploration*. 34 (2020), p. 797
[6] James Tester, *A History of Western Astrology* (Woodbridge, UK: The Boydell Press, 1987), p.242
[7] Liz Greene, 'Liz Greene - Astrologers' Agendas: How We View Life Is How We Read Charts', *Astro Dienst* http://www.astro.com/astrology/in_lifeview_e.htm. [accessed 13 Jan 2021]

irrespective of whether astrology was approached as divination or as science.[8] Nonetheless, the conversation concerning astrology's truth status persists. A major problem with critiquing astrology because of cultural dependence is that science can also be scrutinised and subject to claims that it is not inherently true. For example, science can reflect power relations in a society when considered through social and political contexts. As French philosopher Foucault argues, 'power is… everywhere.'[9] It runs right through the middle of 'regimes of truth.'[10]Therefore, without embarking on complex theories of power it is unfair to make the assumption that science is absolute. Historian of astrology David Pingree writes 'for the sciences I study are those related to the stars, and they include not only various astral omens, astrology, magic, medicine, and law… All these subjects, I would argue, were or are sciences within the contexts of the cultures in which they once flourished or are now practiced.'[11] Pingree's comments imply that modern science can also be culturally determined and not intrinsically valid. The debates on the cultural and truth status of both astrology and science will not be explored in great depth in this dissertation, though the discussion was necessary in the introduction to provide some context to the paper.

Nevertheless, the astrologers who are engaged with my study do use scientific methods in astrological research and thus, they try to decide upon the authenticity of astrology through quantitative scientific methods to some extent. Accordingly, through questioning scientifically-oriented astrologers, I hope to understand what they believe is the scope for science as an explanatory method for astrology. Therefore, I will be engaging in a qualitative piece of

[8] Garry Phillipson, 'Astrology and Truth: A Context in Contemporary Epistemology' (unpublished doctoral thesis, University of Wales Trinity Saint David, 2019)
[9] Michel Foucault, *Discipline and Punish: the birth of a prison*. (London: Penguin, 1991), page 223
[10] Paul Rabinow, *The Foulcault Reader: An introduction to Foulcault's thought,* (London: Penguin, 1991)
[11] David Pingree, 'Hellenophilia versus the History of Science', *ISIS*. 83 (1991), 554

research to see what their beliefs on science reveal about these astrologers' cosmologies and philosophies.

Rationale

Throughout history there has been a fair amount of academic discourse on the relationship between astrology and cosmology. Historical thinkers such as Ptolemy and Aristotle have thought deeply about astrology's place in relation to the nature of the cosmos as will be discussed below. Additionally, when exploring the role of science in accounting for all of astrology, there are a number of quantitative studies to draw upon. Notable amongst the studies is the Mars Effect concept by Michel Gauquelin.[12] The academic journal *Correlation* is also a welcome resource. It has been collating scientific tests of astrology since 1968 and provides a comprehensive collection of astrological tests and astrologers to engage with. There is also recent discourse on the truth status of astrology and the cosmos offered by Brockbank in his thesis.[13] Additionally, *Astrology in the Year Zero* offers wide scale qualitative research into the opinions of astrologers.[14] Campion's research into what astrologers think also offers a broad exploration of the thoughts of astrologers.[15] There are, however, gaps in the literature when it comes to exclusively engaging with the small scientifically-oriented astrology community in regard to their personal philosophies and cosmologies. Most studies, especially those that critique the use of science in astrology tend to focus on methodologies adopted or on the truth status of astrology. In this paper, I will explore further what the astrologers' view on the nature of the cosmos are, relative to their viewpoint on the scope of science as a tool to account for

[12] Michael Gauquelin, *L'influence des astres* (University of Paris: Paris, 1955)
[13] James Brockbank, 'The Responsive Cosmos: An Enquiry in to the Theoretical Foundation of Astrology' (unpublished doctoral thesis, University of Kent, 2011)
[14] Garry Phillipson, *Astrology in the Year Zero*. (London: Flare Publications, 2000)
[15] Nicholas Campion, *Astrology and Popular Religion*, (eBook: Ashgate Publishing Limited, 2012) p. 9-11

astrology. I will pay specific attention to how scientifically-oriented astrologers integrate the two apparently irreconcilable cosmologies (scientific and astrological) in their own thought. I believe there is space for this research in the academic astrological community.

Aim of the research

The intention of this research is to examine whether different protagonists in the discussion on astrology's scientific status hold different views on the ability of science to account for astrology. The interpretation of the differences in these views will be used to understand the astrologers' cosmologies. The main enquiries to be addressed in this paper are: why do scientifically-oriented astrologers take the position they do in regard to science and the testing of astrology; can the astrologers' definitions of science account for astrology partially or in its entirety, and what do the positions of scientifically-oriented astrologers reveal about their cosmologies? This paper will also investigate and report on the purpose and limitations of defining the essence of astrology. Surprisingly, my results were varied, which indicates that even within the very niche scientifically-oriented subset of astrology, there are different ways of thinking about the nature of the cosmos.

Structure Outline of the paper

This dissertation has been divided as follows: definitions, literature review, methodology, report on findings; and an analysis of the research, which has been split further into four chapters entitled The Essence of Astrology, The Role of Intuition, Scope of Science and Nature of the Cosmos. After definitional clarification has been made, a literature review attends to scholarship on the core of astrology and the role of science in astrology including current commentary on the science status of astrology. The literature review is split into additional

subsections, which explore philosophy and cosmology as well as containing critiques and debates within these subject areas. Next, the dissertation explains the methods adopted for the theoretical as well as qualitative aspects of the research. This section also makes some reflexive considerations and attention is paid to my position as an insider-outsider far to this research. Subsequently, there will be a section that reports on the findings from my primary research interviews with scientifically-oriented astrologers. Finally, the analysis of research chapters, will place my research into wider cosmological and philosophical debates. The conclusion will bring together the research and show how the themes, intuition and a living cosmos, ran throughout the entirety of the research. Lastly, the appendix contains all of the research data.

Definitions

This next chapter will offer definitions and interpretations of three selected principal words that reoccur throughout this dissertation. It is paramount to outline the discrepancies and interpretation of these words at this early stage in order to provide the reader with an additional layer of knowledge about the complexities of the words. Further, the definitions may also provide a greater understanding as to why the protagonists in the astrology and science debate differ so much in their views on what appears to be the same subject. Many, if not all, will have slightly different definitions of the same word.

Astrology

In his two-part paper on the relationship between astrology and science, Mayer points out that all too often, the problem with analysis on astrology and science is a lack of knowledge and the way in which astrology is differentiated by both astrologers and outsiders.[16] He goes on to claim that a distinction should be made between astrology as a practical discipline and the ideological basic assumptions made by astrology.[17]Astrology in its practice from is the work carried out by astrologers. Whereas Mayer presents the acronym ABT, which stands for Above Below Theory; an example of the ideological assumption made by astrologers about astrology (that what happens in the skies affects what happen on earth). This was best defined by Hermes Trismegistus 'that which is below is like that which is above and that which is above is like that which is below.'[18]When thinking about astrology in its practice, one ought to account for the diverse and broad ways that astrology is exercised and therefore, not think of it as a single

[16] Mayer (2020), p. 757.
[17] Gerhard Mayer, 'Astrology and Science: A Precarious Relationship Part 2: Consideration of Empirical Investigations on the Validity of Astrology', *Journal of Scientific Exploration*. 34 (2020), p. 795.
[18] Hermes Trismegistus, 'The Emerald Table (Tabula Smaragdina)', in *The Alchemy Reader: From Hermes Trismegistus to Isaac Newton,* ed. By S. Linden (Cambridge: Cambridge University Press, 2003)

practice.[19] For example, Willis and Curry list five different types of astrological practice which include: (openly) divinatory astrology, neo-platonic, and hermetic astrology, Aristotelic and Ptolemaic astrology, scientific astrology and, finally, psychological astrology.[20] The definition of astrology used within this paper is compatible with the ABT and is taken from Patrick Curry 'the practice of relating the heavenly bodies to lives and events on earth, and the tradition that has thus been generated.'[21]Throughout, this paper will propose that there sits two paradigms within astrological testing: one which tests the assumptions of astrology (or the theory) and the other being empirical investigation such as tests whereby astrologers are asked to match horoscopes to people which is a test of the practice.

Science

A true characterisation of science is difficult to reach given the fact it is determined by epistemological principles and historical context. This is made clear by the following statement from Chalmers:

> 'There is no general category 'science' and no concept of truth which is up to the task of characterizing science as a search for truth. Each area of knowledge is to be judged on its merits by investigating its aims and the extent to which it is able to fulfil them. Further judgements concerning aims will themselves be relative to the social situation.'[22]

[19] Nicholas Campion and Liz Greene (2011). Astrologies: Plurality and diversity: Introduction, in *Astrologies: Plurality and diversity: The proceedings of the eighth annual conference of the Sophia Centre for the Study of Cosmology in Culture*, University of Wales, Trinity Saint David, ed. By N. Campion and L. Green (2010) pp. 1–15

[20] Roy Willis and Patrick Curry, *Astrology, Science and Culture Pulling Down The Moon* (Oxford: Berg, 2004), p. 65.

[21] Patrick Curry, 'Astrology' in *The Encyclopaedia of Historians and Historical Writing*, ed. By Kelly Boyd (London and Chicago: Fitzroy Dearborn, 1999), p 55.

[22] Alan F. Chalmers, *What is this Thing Called Science?* (Milton Keynes: Open University Press, 1982), p, 166.

Originally, science was part of natural philosophy and simply seen as any form of systematic and knowledge.[23] Ancient philosophers would have accepted versions of science that would be rebuffed by scientists today for instance, the use of spiritual forces like God to explain concepts. For example, Descartes referred to 'principles which are known to all and admitted by all, namely the shape, size, position and motion of particles of matter.' He continued: '… there are no powers in stones and plants that are so mysterious, and no marvels attributed to sympathetic and antipathetic influences that are so astonishing, that they cannot be explained in this way.'[24] However, the use of God in science would not be irrational as it might be widely seen in present day because God and other spiritual elements were regarded as divinely rational.[25] So, while there appears to be divergence, the basic principle of knowledge obtained through rational thought remains. Galileo Galilei can be credited for giving a new impetus to modern science.[26] Galileo alongside Copernicus, Kepler and Newton were pivotal in the creation of science that would be recognised today.[27] They created a science that can be recognised with two key features: observation and hypothesis.[28] Layton writes that it was not until the 19th century that science was mostly focused on the study of nature and became restricted to knowledge that could be deemed academic. [29]

At the time of writing this paper, the moden definition of 'science' is associated with rational thought and as such a rejection of all things superstitious.[30] Some scientific philosophers argue

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[23] Sebastian De Haro, 'Science and Philosophy: A Love-Hate Relationship, *Foundations of Science*. 25 (2020) 297-314
[24] Rene Descartes, *Principles of Philosophy* in: John Cottingham, Robert Stoothoff, Dugald Murdoch (trs.), *The Philosophical Writings of Descartes, Volume 1* (Cambridge University Press, 1985 [1644]) p. 279 section 187 [314 - 5]
[25] Adam Green, 'Cognitive Science and The Natural Knowledge of God, *The Monist*. 96 (2012) 399-419
[26] Scott E Hendrix, '*Rational astrology and empiricism, from Pico to Galileo' in Magic and the Supernatural* by Scott Hendrix and Timothy Shannon (eBook, 2012) p.23
[27] Bertrand Russell, '*The Rise of Science' in History of Western Philosophy,* (United Kingdom: Routledge, 2004), p,525.
[28] Bertrand Russell (2004) pp, 527-528.
[29] ET Layton, 'American Ideologies of Science and Engineering', *Technology and Culture*. 17 (1976), 688-701
[30] Scott E Hendrxi, p.23.

that the meaning of modern is 'thoroughly entwined with science.'[31] Newtonian modern science is a prime example of this as the school of thought believe that the universe can be judged by natural laws, which can be established through science.[32] Modern science 'requires faith that there are universals that can be discovered through reason, that science and the scientific method are superior means for arriving at truth and reality, and that language describes and can be used as a credible and reliable means of access to that reality....Modernist science claims to be progressing toward true knowledge of the universe...'

Scientific realism is the view that science works because the world really has the qualities posited by scientific theories.[33] In an interview, an anonymous scientific realist explains 'realism is encapsulated in the claim that "to have good reason for holding a theory is *ispo facto* to have good reason for holding that the entities postulated by the theory exists'.[34] Scientific realism denotes whether scientists have good reason to believe in their theories based on what they believe to be truth or evidence.[35] As with the Descartes quote I mentioned earlier, the belief often follows from this that where science is concerned, every phenomenon can be *entirely* explained in terms of physical bodies (e.g. atoms) colliding. A corollary of this is that science is, by definition, concerned with repeatable, replicable phenomena. Sven Ove Hansson suggests that to distinguish a science from a pseudoscience is to look for tacit knowledge that can be fully and explicitly explained so that others can understand and replicate.[36] This definition can present a problem for astrology because many astrologers discussed the use of intuition or psi, this will be discussed in detail later on in the paper. Hansson continues that the

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[31] B. Castel and S. Sismundo, *The Art of Science,* (Toronto: University of Toronto Press, 2003), p. 9.
[32] Jessica Wilson, 'Newtonian Forces', *The British Journal for the Philosophy of Science*. 58 (2007) 173-205
[33] Gary Gutting, 'Scientific Realism vs. Constructive Empiricism: A Dialogue', *The Monist*. 65 (1982) 336-349
[34] Gary Gutting (1982) 336
[35] C J Smart, *Philosophy and Scientific Realism*, (London: Routledge & Kegan Paul, 1663)
[36] Sven Ove Hansson, *Defining Pseudoscience and Science in Philosophy of Pseudoscience Reconsidering the Demarcation Problem*. (Germany: University of Chicago Press, 2013), p. 61

more knowledge is articulated, the more it can be critiqued and improved.[37] There is a common assumption that if astrology is to qualify as a science, it would need to be proven through repeatable experiments. Otherwise, it would be a pseudoscience. The challenge facing astrologers is to either come up with repeatable experiments to prove astrology, or to find fault with this entire way thinking – which leads into the following quote from Curry 'I came to realize that science itself depended on various assumptions that were not only highly questionable but themselves insusceptible to scientific validation. In other words, science was attended by as many mysteries and as much ultimate uncertainty as astrology'.[38]Kuhn's argument reiterates Curry's, he states that there is no concrete agreement of terms amongst the philosophical science community.[39]

Intuition

As Willis and Curry write, astrologers bring a 'complex set of values, assumptions, problems and strategies.' [40] One such strategy is so called 'intuition.' It is, therefore, relevant at this point to also define intuition, an important and reoccurring concept in the astrology and science discussion. Prior research demonstrates that the vast majority of astrologers do believe intuition is a necessary part of astrological readings.[41] This reconfirms the work of Tracy Marks who wrote over thirty years prior 'only by drawing upon our intuition as well as our intellect can we penetrate to the essence of a chart and interpret it in a vital and relevant manner.'[42] Since intuition is a persistent topic in the practice of astrology it should be the focal point of astrological research according to Cornelius:

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[37] Hansson (2013) p.61
[38] Willis & Curry (2004), p12.
[39] T Kuhn, 'Second Thoughts on Paradigms,' in *The Structure of Scientific Theories* ed. by F Suppe (Urbana: University of Illinois Press, 1974), p. 803.
[40] Willis and Curry (2004) p, 97
[41] Nicholas Campion, *Astrology and Popular Religion*, (eBook: Ashgate Publishing Limited, 2012) p. 181, table 12.7 (ix).
[42] Tracy Marks, *The Art of Chart Interpretation: A Step-byStep Method of Analyzing, Synthesizing and Understanding the Birth Chart* (Lake Worth, FL: Ibis Press, 2009) p. 79.

> If there is anything in astrology at all, we are bound to conclude that there is some other element involved. Usually when this conclusion is reached, a vague mention is made of intuition and the analysis of the phenomenon is taken no further. But as far as I am concerned, far from being the end of the discussion this has to be the place where we begin.[43]

Intuition has been defined as a form of non-logical reasoning.[44] It appears to be on the opposite end of the spectrum from the science described above which is about repeated and repeatable observation. From the observed phenomena, theories are constructed which attempt to draw out the logical consequences that have been observed. Hence, science is often labelled as logic-driven.[45] The observations, and logic, can be validated by anyone. Whereas intuition is inaccessible to both. Intuition has been understood in different ways. For example, Descartes believed it was innate logic where there is 'no room for doubt'.[46] Whereas, Kant thought intuition was a mode of reasoning that built upon perception.[47] However, it is likely most astrologers would recognise intuition similarly to the way Karl Jung did which is considerably different from the definitions presented above. One of the clearest definitions Jung gives of intuition is 'that intuition is a sort of perception that does not go exactly by the senses, but it goes via the unconscious.'[48] However, there is not one conclusive definition presented by Jung because of the complexity of the word in English and German.[49] He does however, state that

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[43] Geoffrey Cornelius, *Moment of Astrology,* (Swanage: Wessex Astrologer Limited, 2002),p, 55.
[44] Aaron Sloman,' Interactions between philosophy and artificial intelligence: The role of intuition and non-logical reasoning in intelligence', *Artificial Intelligence*. 3–4 (1971) 209-225
[45] Michael Otte, 'Intuition and Logic', *For the Learning of Mathematics*, 10, (1990), 37–43.
[46] Descartes Rule 3 : AT 10: 368, CSM 1: 14
[47] Kirk Dallas Wilson 'Kant on Intuition', *The Philosophical Quarterly (*1950-).25, (1975), pp. 247–265
[48] C. G. Jung, 'The Tavistock Lectures: Lecture I' in C. G. Jung, R. F. C. Hull (tr.), *Collected Works Vol. 18: The Symbolic Life (Miscellaneous Writings)* (Princeton, NJ: Princeton University Press, 1955) p. 15.
[49] Nathalie Pilard, 'Plurality of Meaning in Jung's Notion of Intuition' in *Jung and Intuition: On the Centrality and Variety of Forms of Intuition Jung and Post-Jungians*. (London: Routledge, 2015) pp. 3-21

‘intuition does not say what things “mean” but sniffs out their possibilities.’[50] Jung’s indistinctness reiterates the requirement for a defining section of the word in this paper. Although most people have a general concept of intuition, many also hold divergent opinions on what exactly it is, where it comes from and its legitimacy in logical thought. It is for this reason intuition is a controversial subject matter for astrologers and critics. In this paper, intuition will be treated the way Jung would define it, as unconscious perception.

[50] Carl Jung and James Kirsch, *The Jung-Kirsch Letters,* (London: Routledge, 2011), p, 21.

Literature Review

This literature review considers texts that are relevant to the science status of astrology discussion. The texts presented here also consider historical trends in astrological literature and science. The literature reviewed in this chapter also delves into philosophy and cosmology, as the findings of this dissertation will be explored within philosophical and cosmological contexts.

The essence of astrology debate

As Ann Geneva argues 'it is first necessary to locate astrology within its own universe of discourse before historians can attempt to compare it with other explanatory systems.'[51] To reach a conclusion about to what extent science can explain astrology, one must first understand what the essence of astrology is. It is usually considered as either science, divination, a combination of both or something otherwise. Discussions on the scientific status of astrology date back to the era of Ptolemy. Ptolemy argued that astrology was what would now be regarded as 'science', although there were components of it he disregarded because he thought they were too akin to magic:

> ... as for the nonsense on which many waste their labour and of which not even a plausible account can be given, this we shall dismiss in favour of the primary natural causes. What, however, admits of prediction we shall investigate, not by means of lots and numbers of which no reasonable explanation can be given, but merely through the science of the aspects of the stars to the places with which they have familiarity.[52]

[51] Ann Geneva, *Astrology and the Seventeenth Century Mind: William Lilly and the Language of the Stars,* (Manchester and New York: Manchester University Press 1995), p. xiv.
[52] Ptolemy, *Tetrabiblos,* III.3, p.237; Harvard Heinemann ed. (Trans. F.E. Robbins); Loeb Classical Library

This notion presented by Ptolemy highlights that only the 'scientific' traits of astrology (if there are any) are legitimate. Ptolemy was crucial in the scientific shift within astrology as he tried to correct it to be compatible with Aristotle's system.[53] Campion explains that 'we talk about Ptolemy providing a "scientific" basis for astrology, not in the Babylonian sense that it was a discipline with its own rules, but by providing natural causes.'[54]This is significant because this paper explores the scope of science as a tool to potentially explain astrology. Science could explain all of Ptolemy's astrology once he applied a more logical system to the subject. The debate on the essence of astrology is about what categorisation astrology is best suited to. This paper will mostly look at astrology as either a divination or science unless a participant presents another alternative. Although, astrology has been observed through many classifications including but not limited to a divine science, pseudoscience, art, magic, language, religion.

Astrology treated as a causal, physical science

To begin the conversation on the current commentary of astrology's science status, this subsequent section of the literature review will focus on literature that treats astrology as a causal, physical science and will include practitioners of, and critics of, astrology who believe this way of thinking about astrology is an adequate basis upon which to dismiss or vindicate astrology.

There are two ways to think of astrology as a causal, physical science. The first is to consider it as a demonstrable discipline that has its own rules. On the side of astrology, Paul Westran is an avid believer that this is the case. Westran believes that synastry is a 'true and demonstrable

[53] S Jim Tester, *A History of Western Astrology* (Suffolk: Boydell Press, 1987), pp. 3-12.
[54] Nicholas Campion, *The Dawn of Astrology* (London: Continuum, 20018) p. 209

fact and it affects everyone.'[55] Another way to think of astrology as scientific is to consider it as a verifiable phenomenon that is demonstrable according to controlled experiments. Scientifically-oriented astrologers are not a new phenomenon although the word 'science' has evolved over time, as previously discussed in the definition of science. In this case, this section refers to those who have tried to test or prove astrology, which today may be regarded as scientifically-oriented

Perhaps the most impactful scientific tests are the Mars experiments conducted by Michel and Francoise Gauquelin.[56] Unique about the Mars experiment tests versus other tests mentioned is that the Gauquelins were testing the hypothesis that there is a link between the heavenly bodies and events on earth, whereas tests such as The Carlson Research was testing the ability of astrologers.[57] This returns to the definition of astrology previously stated, that highlighted astrology as an ideological assumption rather than the practice of astrologers.[58] Although the Gauquelins treated astrology as a science, they were sympathisers of astrology rather than attempting to conduct hostile tests with the intention of astrology failing.

The trend for treating astrology as a science remains. Research from Phillip Graves suggests that the belief that astrology is a science is not on a decline.[59] Although this work does not intend to make authoritative statements on the topic, Denis Elwell does offer a strong assertion on scientific astrology writing 'if a scientific astrology is to be developed, meticulous attention must be paid to its language. Modern science has been conditioned by linguistic philosophy

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[55]Garry Phillipson, 'An Interview with Paul Westran', Positive Astrology http://www.positiveastrology.com/Articles/article-004.asp [accessed Jan 03, 2021]
[56]Suitbert Ertel and Kenneth Irving, *The Tenacious Mars Effect,* (London: Urania Trust, 1996)
[57] See below
[58] See Definitions Section
[59] Philip Graves, '*When Did Modern Astrologers First Agree that Astrology is not a Science?*', IAM – Infinity Astrological Magazine, 13 July 2020, p. 73

and the semantic discipline.'[60] His stance appears justified given the lack of dogma and significant discrepancies within the astrological community, which fuels the fire to many critics, some of those arguments will be presented below.

Astrology is subject to critique from sceptics due mostly to the fact that it makes testable claims. As pointed out in the above discussion, the arguments that will be presented by astrological sceptics in this section will be by those who start from an astrology-is-science assumption and deduce backwards that astrology cannot be true because it does not always stand up to methodological scientific testing. Infamous in this discussion is Geoffrey Dean, an astrologer turned sceptic, who now dedicates his life to debunking astrological claims through the use of science and active critique of the scientific methods, or lack thereof, adopted by astrologers, a prime example is his large scale work with Kelly on astrology and consciousness.[61] Dean, treats astrology as a science but that does not mean he thinks astrology is a science, rather he believes that astrology should be tested with scientific rigour in order to prove its viability.[62] The fact astrology does not stand the test of science proves that it is not one according to Dean, instead it is based upon correspondences and superficial connections make astrology 'like believing in fairies'.[63]

The Carlson Research was an important additional moment in the history of scientific tests of astrology. Carlson created a double-blind test of astrology. The results of the experiment

[60] Dennis Elwell, 'Editorial', *Correlation*. 8 (1970), 3
[61] Geoffrey Dean and Ivan Kelly, 'Is Astrology Relevant to Consciousness and Psi', *Journal of Consciousness Studies*. 6 (2003) 175-198
[62] Kenneth McRitche, 'Commentary on Geoffrey Dean and Ivan Kelly's Article "Is Astrology Relevant to Consciousness and Psi?" *Journal of Consciousness Studies,* 23 (2016) 153-179
[63] Geoffrey Dean and Ivan Kelly (2003) p. 183

concluded that astrologers could not identify a personality based on a birth chart.[64] This test was important to sceptics due to the conclusion reached about the inadequacy of astrology.

Both Dean and Carlson approach their critique of astrology from an astrologer-centred approach, looking at the ability of astrologers to make predictions rather than the inherent claim made by astrology that there is a correlation between the celestial bodies and life on earth. The assumptions made by a 'testing astrologers' type of study is that these studies are testing the practice of astrology rather than the theory itself. The problem with this approach is that really the astrologer is being tested. Human error and cultural differences in practice could explain the unsuccessful tests. Testing astrological theory would be a more potent approach to scrutinising astrological claims.

In stark opposition to Westran mentioned above, is the stance taken by Culver and Ianna. Their book *Astrology: True or False?: A Scientific Evaluation* is a useful place to start looking at the current literature that treats astrology as a science.[65] In the book, published in 1988, they attempt to analyse astrology's claims through rational scientific testing methods. Culver and Ianna's approach test the theory of astrology rather than just the ability of astrologers. Similarly, one could look at the work of Richard Dawkins to see astrological critique that treats astrology's essence as scientific. One of the staunchest critics of astrology, Dawkins states that 'a constellation is of no more significance than a patch of curiously shaped damp on the bathroom ceiling.'[66] Dawkins relies on the assumption that astrology is not congruent with his modern understanding of science, placing astrologers in a group he names 'enemies of reason'.

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[64] Shawn Carlson, 'A Double-Blind Test of Astrology', *Nature*. 318, (1985), 419-425
[65] Roger Culver and Philip Ianna, *Astrology: True or False?: A Scientific Evaluation* (New York, Prometheus Books, 1988)
[66] Richard Dawkins, *'The Real Romance in the Stars'*, The Independent, 23 October 2011 <https://www.independent.co.uk/voices/the-real-romance-in-the-stars-1527970.html>

There are countless amounts of anti-astrology literature published in the world, some less relevant than others and not necessary to discuss. However, in the interest of presenting an impartial argument, a critique of astrology from those who have seriously considered it properly as a physical science is needed. In this case it is applicable to mention Paul Kurtz, Bart Bok and CSICOP in more detail beyond just the famous statement. CSICOP dedicated themselves to debunking all that they believed to be pseudoscience and encourages the application of science and reason.[67]

In response to attacks from CSICOP and others who hold similar views, Eysenck claims scientists are desperate to discredit astrological research and that inexplicable findings 'cannot just be wished away because they are unpalatable or not in accord with the laws of present-day science'[68]This is a justified remark although it does not account for the fact that critics in this case do view astrology as a physical science. Eysenck's argument does reinforce the notion that astrology is something other than a causal, physical science and this will be explored further in the ensuing section.

When critics who are outsiders to astrology try to test it, they are testing their conceptions of astrology and the cosmos, which is not necessarily a true reflection of what astrology is; usually they treat it as a monolith. In addition, often they are either testing astrology as a science or testing the ability of the astrologer. Mayer pertains that the problem with sceptics and scientists is that they often make 'judgements about astrology without knowing how astrological practice works.'[69] He specifically mentions the aforementioned and notorious 'statement of 186 leading scientists against astrology' as one of the most prominent examples of this very behaviour. A

[67] Gordon Stein, *The Encyclopedia of the Paranormal* (Amherst New York: Prometheus Books, 1996), p, 168.
[68] Hans Eysenck and David Nias, *Astrology: Science of Superstition* (London: Temple Smith, 1982), p,208.
[69] Gerhard Mayer (2020), p, 814.

more refined critique needs to be established by sceptics, which competently investigates astrology as a theory distinguished from a practice but still recognising that there may not necessarily be a one size fits all repeatable truth that can be validated in the study.[70] That is why, in this section I have decided to objectively present critiques from astrology sceptics who have a deep understanding of astrology, such as Dean, who are consequently able to make claims, which are not completely baseless.

Simon Best was optimistic that science will catch up to astrology and eventually will be able to support astrological theory.

> 'Science, in its painstaking way, is gradually coming to conclusions that promise to make astrology respectable. However, astrologers, from their intuitive viewpoint, should not be too patronising, their own subject being too imperfect not to need the help that science can give.'[71]

This section of the literature review has presented some of the current commentary, which treats astrology as a science in an attempt to either validate or invalidate the subject and practice. However, rather than waiting for science to 'make astrology respectable' others believe that science is not needed to validate astrology because astrology is not a science at all. This conversation will now be discussed in the next section.

Astrology treated as partially or entirely outside of science

The next part of the literature review focuses on literature, which treats astrology completely or partially outside of the frame of a physical, causal science like that described above. I'll be

[70] See 'Chapter 4: Nature of the Cosmos'
[71] Simon Best, 'Editorial', *Correlation (*1968) p.9 .

referring to this type of astrology as divinatory (unless mentioned otherwise). There is a plethora of different ways to think of divinatory astrology.[72] Geoffrey Cornelius says, 'Divination is here to be understood as the interpretation of the will of the divine beings.'[73] Although, when he says 'here' he is referring to divination as it was seen in ancient cultures rather than exact as he would define it. Mather presents another way to think about divinatory astrology including to think of astrologers as entering 'some kind of frenzied, rhapsodic or identifiable altered state of consciousness.'[74] Or, of evening using psychic ability of some sort.[75] Cornelius is at the forefront of this line of thinking in contemporary astrology. He is a firm advocate that astrology is divination.

> Conventional astrological interpretation is not dependent on objective correlations…Some unknown "other" element is involved in the astrological interpretation… (This in turn suggests that the theoretical framework of traditional astrology is likewise inadequate to describe the phenomena.) . . . This "other element" is broadly but frequently characterised, by astrologers and researchers alike, as either ESP or intuition. . . The perception of astrology is founded in no special technique—experience does not improve it. . . The perception in astrology is not regular but unpredictable and non- regular. (It is not open to a rule and it appears to be a function of the situation and the participants. If it is a function of the situation, then it is also context-specific rather than universal.)[76]

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[72] Brockbank (2011) p, 77.
[73] Geoffrey Cornelius, *The Moment of Astrology* (Bournemouth: Wessex Astrologer, 2002) p, 129
[74] Antony Thorley, 'Perception of Divination in the Astrological Consultation', *Correlation*. 24 (2006) 8.
[75] Arthur Mather, 'Modern Science Epistemology and Astrology. Following up on Garry Phillipson's Challenging Article.' *Correlation*. 26 (2008) 55.
[76] Geoffrey Cornelius, *The Moment of Astrology: Origins in Divination* (Swanage: Wessex Astrologer, 2003) p, 67.

Dane Rudhyar was first published in the English-speaking world on phycological astrology. He is a theosophist, but his astrology is about psychological analysis rather than concern with the soul.[77] Rudhyar claims astrology is entirely unscientific, untestable and unprovable. The reason for Rudhyar's conviction is because he believed that only spiritual truths are absolute whereas, astrological rules are completely culturally determined and a matter of convenience to suit a society at any given time.[78] This consistent argument made by astrology-as-divination advocates, helps explain why astrology cannot be understood by scientific means. For this reason, astrology 'fails' investigations like those conducted by Culver and Ianna.

James Brockbank is also an important name in the conversation that views astrology as outside of science. In his thesis The Responsive Cosmos: An Enquiry into the Theoretical Foundation of Astrology Brockbank argues that astrology is not a science, nor does it have the methodology of a science.[79] He develops this argument because in chart readings, which often guide 'what-to-do' matters the client is involved in the process and there is no methodology to account for the client's changed behaviour based on the guidance.[80] Brockbank develops his idea further to develop the idea of a responsive cosmos, which will be explored later in the literature review. Furthermore, Robert Pelletier argued 'it seems superfluous to demand mathematical or astronomical precision of a frame of reference for houses that is purely symbolic.'[81] Though Pelletier is not on the complete same page as Brockbank he holds a similar view that there are some modes of practice within astrology that cannot be rationalised through scientific methods based on their very nature.

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[77] Dane Rudhyar, T*he Astrology of Personality (*Santa Fe: Aurora Press, 1991)
[78] Nicholas Campion, 'Twentieth Century: New Age and Ancient Teachings' in *A Brief History of Western Astrology Volume* 2 (London: Continuum, 2011) p, 248.
[79] Brockbank (2011) p, 141.
[80] Brockbank (2011) p, 141
[81] Robert Pelletier, *Planets in Houses: Experiencing Your Environment (*Rockport MA: Para Research, 1978) pp. 13-14)

Although most sceptics treat astrology as a science and thus try to disprove it through science, Paul Kurtz, a notable critic of astrology mentioned above, thought calling astrology a 'poetic interpretation of the heavens' would be 'fine'.[82]Here we see that Kurtz' problem is the claims made that it is scientific; if astrologers viewed their subject as 'poetry' he would have no objection. The problem with viewing astrology as purely divinatory in its nature is that there are objective realities to astrology that allow for communication about concepts. As Mayer states, 'the mere fact that the symbol system of astrology can be used to communicate reliably with other people who speak this astrological "language" via charts and their interpretations should provide sufficient clues to give the "objective," not psi-conditioned or accidental part the right status in astrological practice.'[83]

Astrology treated as a combination of disciplines

This next section focuses upon literature that views astrology as a combination of science and something else. There are many who believe that astrology cannot be categorised into just a singular category of science or not-a-science. This group of people argue that astrology can be both or neither. Significant in this discussion is David Cochrane whose belief is that astrology can be both divinatory and scientific. In a recent YouTube lecture on 'how astrology works,' Cochrane displays how modern science such as physics helps to prove the zodiac through sacred geometry, he provides a paradigm for astrology within a theoretical framework.[84] Cochrane argues that the idea of astrology can be simultaneously scientific and mystical which

[82] Cornelius, G. 'Is astrology divination and does it matter?', *The Mountain Astrologer*. 81 (1998)
[83] Mayer (2020) pp, 804-805.
[84] David Cochrane, *How Astrology Works: A New Theoretical Framework,* online video recording, YouTube, 18 December 2016 https://www.youtube.com/watch?v=2tFr8hNIjWI&feature=youtu.be [accessed June 2020]

would allow us to bring the long tradition of astrology into the modern times by merging scientific logic and rational thought with mysticism. He continues

that science has to be separate from mysticism is a relatively new ideal that does not necessarily need to be maintained. For example, physicist Schrodinger was inspired by mysticism by bringing the idea of oneness to physics. 'This life of yours which you are living is not merely a piece of this entire existence, but in a certain sense the whole… this as we know, is that sacred, mystic formula' says Schrodinger.[85] Divination and science need not be separated.

Philosophy and Cosmology

The Cosmos: Living or dead?

It is necessary to consider the nature of the cosmos to reach a conclusion about whether there is a correlation between the celestial bodies and life on earth. The view an individual takes about the nature of the cosmos is known as their cosmology. The classical cosmos is intertwined with the notion of a sumpatheia, which means a sympathetic cosmos.[86] Sympathy is the idea that everything in the universe is connected and thus congruous with the principle of correspondence. As with the other concepts outlined above, there are historical and epistemological differences of opinions on precisely what the nature of the cosmos is. The two main ways to distinguish the cosmos is either as a living cosmos or a mechanical cosmos.

On the side of the living cosmos is Plato whose view of the cosmos was the earliest and most substantial in ancient Greek cosmology.[87] He defines the cosmos as the 'partnership and

[85] Ewin Schrodinger, *Mein Leben, meine Weltansicht (My Life, My View of The World)* (1951)
[86] Peter Adamson, 'Plotinus on Astrology' in *Oxford Studies in Ancient Philosophy vol. 35* ed. By B. Inwood, (Oxford: Oxford University Press, USA, 2008), p.277.
[87] Nicholas Campion, 'Classical Greece' in *Astrology and Cosmology in the World Religions* (New York: NYU Press, 2012) p, 152.

friendship, orderliness, self-control, and justice' which 'hold together heaven and earth, and gods and men, and that is why they call this universe a world order (kosmos), my friend, and not an undisciplined world-disorder.'[88] The cosmos was created by God- a single creator. In Timaeus Plato writes

> ... he [the demiurge] put intelligence in soul, and soul in body, and so he constructed the universe. He wanted to produce a piece of work that would be as excellent and supreme as its nature would allow. This, then, in keeping with our likely account, is how we must say divine providence brought our world into being as a truly living thing, endowed with soul and intelligence.[89]

Often dubbed 'divine', Plato's cosmos is compatible with Christianity, although it would be incorrect to assume a benevolent religious God. The creator of the cosmos, according to Plato, was a supreme consciousness that was divine even when material and corrupt.[90]This divine cosmos is very much alive and conscious. Plato's cosmos represents duality, both Being and Becoming.[91] His cosmos was 'unmoved' but providing motion.[92] This motion was provided by the divine creator. Fredrich Solmsen records that the cosmos 'suggested to Plato the existence of a divine Soul — or Mind — which inspired and directed these movements. The stars themselves were felt to be divine beings, alive, and animated by their own souls.'[93] His cosmos was ultimately ordered by divinity. Plato's cosmos can also be considered a 'responsive cosmos'.

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[88] Plato, *Gorgias*, 508a
[89] Plato, *Timaeus,* ed. John M. Cooper, trans. Donald J. Zeyl, ed., Plato Complete Works (Cambridge: Hackett Publishing Company, 1997), 30b-c.
[90] Plato, *Timaeus,* trans. R.G. Bury (Cambridge, MA: Harvard University Press, 1931), 28-40
[91] Campion (2012) pp, 152-153.
[92] Plato, *Laws,* trans. Trevor J. Saunders, Plato, Complete Works (Cambridge: Hackett Publishing Company, 1997), 894e-895b.
[93] Fredrich Solmsen, 'Epicurus and Cosmological Heresies,' *The American Journal of Philology*. 72, (1951) 5

Brockbank helps develop the idea of a responsive cosmos within astrology. He argues that because astrology is lacking empirical evidence to support it, a 'non-human agency is involved in the coming together of astrologer, astrological chart, client and context in a way that will enable the astrologer to provide relevant guidance on the matter being considered.' [94] He starts with four factors that explain the astrological experience: 'that a non-human agency is involved in the astrological process; that it is an agency which is essentially benevolent; that it will respond to individual enquiries and provide signs which can be interpreted; and that its involvement in an astrological enquiry is not guaranteed.'[95] From this four assumptions, Brockbank deduces that the responsive cosmos is a 'convenient wrapper' for these factors without giving commentary on the agency itself.[96]

Aristotle also presents his own cosmos. Like Plato, he believed that human beings live within an ordered cosmos, to which we are inherently connected. For Aristotle, the cosmos was a set of mechanisms, but unlike Plato where the creator embodied all of the power, Aristotle believed that the 'intentions of the creator might be transmitted to humanity.'[97] He argues that within the cosmos, the celestial bodies are not lifeless but rather, they are participating in life, which means that events should no longer be 'surprising'.[98]Aristotle focused on the movement of celestial bodies. Solmsen describes:

> In his system eternal movement is forever tied to one and the same Cosmos. Movement, Cosmos, and Time are coeternal, and the never-broken movement that he himself has

[94] Brockbank (2011) p, 75.
[95] Brockbank (2011) p, 87.
[96] Brockbank (2011) pp, 87-88.
[97] Campion, (2012) p, 155.
[98] Aristotle, On The Heavens , II.xii.292a.

> in mind is the rotation which is performed by the heavenly sphere and inspired by the perfection of the Unmoved Mover.[99]

Campion observes that although the cosmologies of Plato and Aristotle differ greatly in writing, as a group in the classical world they are able to be blended into a single worldview whereby the celestial bodies demonstrate order and influence the behaviour of humans.[100]

A materialist cosmos on the other hand, is believed to be made only of physical matter and tends to favour itself to the scientific view of the cosmos. A mechanical cosmos is also complementary to the scientific view of the cosmos. An example of this is the Core Scientific Story (CSS) by Kirk, the theory suggests that all things in the universe began with the Big Bang and everything else that formed following this including life, planets and the stars evolved through 'blind natural forces'

> If we hold the Core Scientific Story, our broad theory of the world hangs together pretty well. The CSS has been tried and tested, and provides a remarkably reliable basis for explaining and predicting a great deal of what happens. It strikes most of us as so compelling that we tend to reject claims which conflict with it… and to be favourably disposed to claims which fit in with it.[101]

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[99] Friedrich Solmsen, 'Aristotle and Presocratic Cosmogony,' *Harvard Studies in Classical Philology*. 63(1958) 278.
[100] Campion, (2012) p, 156.
[101] Robert Kirk, *Relativism and Reality*, (London: Routledge, 2007) p, 28.

Although it should be recognised that not all science holds that the cosmos is materialistic and mechanical, with new developments in contemporary science suggesting that the universe is a 'quasi-living, coherent whole'.[102]

The distinction between whether the cosmos is living or mechanical can also be established through the terms chaotic versus cosmic. A Chaotic cosmos bears itself to the mechanical and mostly scientific way of viewing the cosmos. It assumes that the cosmos emerges out of formlessness. In his paper Chaos and Cosmos Abraham lists the conflict of Chaos and Order (cosmos) as the 'fundamental duality of existence' and uses Joseph Campbell analogy, which likens the cosmos versus chaos battle to the concepts of heaven and hell.[103]

Whereas a cosmic (not chaotic) cosmos describes the universe as being created as a definite act, this lends itself very much to the idea of a living and divine cosmos presented by the classics. We see expansions of this in the modern world with the likes of Henri Corbin who modified the Platonic cosmos and draws upon Jung to create the 'imaginal cosmos,' which is a realm between being and becoming where human beings can contact ideas, forms or archetypes. This is the realm, he argues, that magic, divination and astrology can be contacted through.[104]The big question within cosmology is whether the cosmos is living or dead. Steven Forrest pondered this saying 'the sky is alive. How strange those words sound... But try the alternative: the sky is dead. We inhabit a dead universe. So where's the truth? Is the cosmos alive or inanimate? Do we live inside a vast thought… or a vast clock?'[105]

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[102] Ervin Laszlo, *Science and the Re-enchantment of the Cosmos: The Rise of the Integral Vision of Reality* (Vermont: Inner Traditions Bear and Company, 2006) pp, 6-7.
[103] Ralph Abraham, *Chaos and Cosmos in Chaos, Gaia, Eros: A Chaos Pioneer Uncovers the Three Great Streams of History* (San Francisco: Harper San Francisco, 1994)
[104] Henri Corbin, '*Mundus Imaginalis, or the Imaginary and the Imaginal',* trans Ruth Horine, Spring, 1972, pp. 1-13 [originally published in Cahiers Internationaux de Symbolisme, 1964, pp. 3-26].
[105] Steven Forrest, *The Night Speaks: A Meditation on the Astrological Worldview* (San Diego, CA: ACS Publications, 1993) p. 5.

Cosmology

Generally, when people think of cosmology, they think of scientific, large-scale cosmology and the universe. There are actually two broad definitions of cosmology; an anthropological definition, which considers the ways that people relate to the cosmos, and a scientific definition, which is a scientific study of the cosmos concerned with the fabric and structure of the cosmos with an emphasis on astronomy and the structure of galaxies.[106] The twentieth-century revolutionised popular understanding of cosmology due to the likes of Galileo, discussed above.[107]

To take a modern (although I use the word 'modern' with caution as the modern world does still encompass many of the classical views of the cosmos) and scientific view of cosmology, one would be to approach cosmology in terms of physical science. Therefore, the modern scientific way to define cosmology is 'the science, theory or study of the universe as an orderly system, and of the laws that govern it; in particular, a branch of astronomy that deals with the structure and evolution of the universe.[108]

The traditional or classical way of engaging with cosmology is to consider the ways in which people align their lives with the cosmos such as the way people align buildings, customs and their bodies to cosmos. The classical cosmos encompasses everything:

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[106] Nicholas Campion, 'The Importance of Cosmology in Culture: Contexts and Consequences', *Trends in Modern Cosmology*. (2017)
pp. 3-17
[107] Hendrix (2012) p, 23.
[108] Norris Hetherington, *The Encyclopaedia of Cosmology: Historical, Philosophical and Scientific Foundations of Modern Cosmology*, (New York: Routledge, 1993), p, 116.

> "Cosmos" is used in many senses, but our present discussion concerns it with reference to its final arrangement, which is defined as follows: a cosmos is a construct formed from the heavens, the Earth, and the natural substances within them. This [cosmos] encompasses all bodies, since, as is demonstrated elsewhere, there is, without qualification, no body existing outside the cosmos...And that the cosmos has Nature as that which administers it is evident from the following: the ordering of the parts within it; the orderly succession of what comes into existence, the sympathy of the parts in it for one another; the fact that all individual entities are created in relation to something else; and, finally, the fact that everything in the cosmos renders very beneficial services.[109]

This quote from Cleomedes coincides with the previously mentioned responsive or Platonic cosmos because it comments on sympathy, in other words, the interconnectedness of everything within the universe. Plus, the line in quote 'the orderly succession of what comes into existence' gives an idea of a constantly moving organised system. The split between a scientific and classical cosmos is not without controversy. Milton Munitz uses the word 'primitive' for any cosmology that is not scientific such as 'story-based' cosmologies.[110] Conversely, Freya Mathews does not believe that story-based cosmologies should be ignored she argues that 'cosmologies are not of course pulled out of the air.'[111] Despite the distinction between scientific cosmology and anthropological cosmology, they do blur; ideas are fluid and people are messy in their thoughts. This paper is exploring personal cosmologies, which are

[109] Cleomedes, 'On the Heavens', 1.3.3, 1.3.11, *Cleomedes' Lectures on Astronomy,* trans. Alan C. Bowen and Robert B. Todd, (Berkeley, Los Angeles: University of California Press, 2004)
[110] Milton K Munitz, 'The Logic of Cosmology,' *The British Journal for the Philosophy of Science*. 13, (1962) 35-38
[111] Freya Matthews, *The Ecological self, Savage*, (MD: Barnes and Noble, 1991) p. 109.

likely to blur, however, the research is aiming to discover if the participants will demonstrate general trends that should indicate how they view the cosmos.

Personal Cosmology

A personal cosmology is the simply the cosmological approach adopted by an individual, which is where the main focus of investigation lies within this dissertation. The paper is concerned with the personal cosmologies of scientifically-oriented astrologers and intends to explore whether the participants in the research share personal cosmologies, which could elude to why they adopt scientific methodologies in their astrology, alternatively, the results could reveal differing stances altogether. I also recognise that within the research, I may find that some astrologers could hold the cosmological position that cosmology is, or should be, entirely within the domain of science and therefore, not personal.

Christopher Chappel writes that cosmology is 'where our story can be told in such a way that it makes sense to ourselves' and 'the study of the cosmos begins and ends with the exploration of self.'[112]This approach is individual centred and makes human awareness as a requisite for the cosmos. Like Chappel, Campion recognises that cosmologies now involve 'humanity as an active participant'[113]The idea of an individual holding a personal cosmology is very much an individualistic act. Lévy-Bruhl disagrees with the exclusive notion of personal cosmologies.[114] The idea of a personal cosmology displays what Lévy-Bruhl would describe as a 'primitive mentality', which to him, is the opposite of a 'scientific mentality' that uses logic and empirical

[112] Christopher Key Chapple, 'Thomas Berry, Buddhism, and the New Cosmology', *Buddhist-Christian Studies*. 18 (1998) 147-54
[113] Nicholas Campion, 'Introduction', in *Cosmologies* , ed. By Nicholas Campion (Ceredigion, Wales: Sophie Centre Press, 2009), pp.1-3
[114] Lucien Lévy-Bruhl, *How Natives Think* ([S.I]: Allen & Unwin, 1926)

evidence to reach conclusions.[115] One of the limitations of Lévy-Bruhl's argument is that it does not account for those who draw upon logic in order to reach and empirical evidence to create personal understandings of the universe. I expect that the research participants will fall into this category hence their use of scientific methods in astrology, especially given the accepted fact that astrology is not properly regarded as a science. To add to the critique of personal cosmologies, Grey maintains that any form of belief system that purports to tell the future is most likely pathological.[116] He further adds that the longevity of belief systems is not an indicator of their 'truth,' maintaining that there have been many forms of medicine that lasted hundreds of years but are not correct.[117]However, Grey's remarks appear to disregard the often logic-driven and methodological scientists who do adopt astrological methods.

[115] S A Mousalimas, 'The concept of Participantion in Lévy-Bruhl's 'primitive mentality' *Journal of the Anthropological Society of Oxford*. 21 (1990) 36.
[116] William Grey, 'Pathological Belief' *Cogito*. 13 (1999) 61-66
[117] Grey (1999)

Methodology

The methodological approach for this dissertation consists of theoretical research displayed in the literature review combined with primary qualitative research in the form of in-depth interviews. Hennick, Hutter and Bailey state that semi-structured in-depth interviews gain 'detailed insight into the research issues from the perspective of the study participants themselves.'[118] They are appropriate when 'seeking information on individual, personal experiences.'[119] Therefore, as interviews are geared more towards what people think, and I am exploring personal cosmologies, I interviewed 6 people who I had identified as scientifically-oriented astrologers about their views on science and astrology. They were chosen on the basis that they have qualitative research of astrology published in an academic journal. I approached each researcher individually, either through social media or finding their contact details through public online records, such as their personal websites. As such, there were no 'gate keepers' stopping me from contacting my chosen participants. Of the 6 people interviewed, 5 were men, and 1 was a woman. All participants were over the age of eighteen. The respondents were all English speaking and from the UK, USA, Australia and Canada. The interviews were approximately 45 minutes long and conducted via Zoom video call. Zoom was the most appropriate method of interview as face-to-face meetings were not possible due to the COVID-19 situation. I chose Zoom rather than phone call as body language and facial expressions could be detected, and I believed it would be easier to build rapport through some form of face-to-face interaction. All of the interviews were recorded and transcribed.

[118] Monique Hennick, Inge Hutter and Ajay Bailey, *Qualitative Research Methods* (London: Sage Publications, 2011) p. 109
[119] Hennick, Hutter and Bailey (2011) p. 109

Before conducting the interviews, I researched both the topic and methodological approaches at length, to discern the kind of questions that would be most fruitful for the purpose of this research. I did not have a set of solid questions when embarking on each individual interview as I favoured a more conversational style approach. However, I did have note of some conversation starters and topic areas that I intended to cover in each conversation. Additionally, I created a reserve list of back up questions in the eventuality that the conversation began to dry up too early or in case they digress on a tangent. Given the short time frame and limited scope, my methods were effective for this dissertation project. Had there been more time and resources available, I may have found it useful to also conduct observations of astrologers working. Hennick, Hutter and Bailey maintain that observations allow the researcher to 'systematically observe and record people's behaviour, actions and interactions.'[120] In this case, I would have enjoyed attending an astrological conference focusing on scientific research of astrology or a symposium that more generally explores some of the areas covered in my research. Hennick, Hutter and Bailey explain that this would be valuable to 'provide context to a study through a social setting'. Additionally, in observing an astrological conference I would have been 'provided a contextual understanding to the findings'.[121] . To mitigate this apparent inadequacy, I researched YouTube and Ted Talks instead.

Reflexive Considerations

I will assume no position on the status of astrology, science or the cosmos from the outset. I have also been actively reflexive throughout the duration of the research and considered the cultural, personal and other cohorts to which I belong that could affect my perspective as a researcher. As Hennick, Hutter and Bailey explain, this process of self-reflection, embarked

[120] Hennick, Hutter and Bailey (2011) p. 170
[121] Hennick, Hutter and Bailey (2011) p. 171

upon before the research and continuously throughout, ensures that the researcher is explicit about their influence on the research.[122] My position based on minimal assumptions would be welcomed by Dean and Mather who write 'despite much progress there remain few concepts in astrology that are not disputed among astrologers. To date the most significant research results have sometimes supported tradition but have more usually contradicted it. The picture emerging suggests that astrology works, but seldom in the way or to the extent that it is said to work. Obviously genuine research must start with as few assumptions as possible.'[123]

I am a twenty-five-year-old British woman born in Manchester, UK but have lived in London for the entirety of my adult life. I am of Jamaican and Irish decent. I socialise and associate culturally mostly with people from the Caribbean diaspora in London. I was raised Catholic and religion was quite prominent in my life until I turned approximately twelve years old when I decided to stop attending church. I now currently identify as spiritual or as having no religion. My keen interest in astrology began in my teenage years and I link it with spirituality. My initial interest was surface level, with little to no real understanding of the larger subject beyond sun signs and birth charts. My prior academic area was Economics and Politics, which I studied at undergraduate level and I also have a keen interest in philosophy, which ran through many of the modules of my degree. Hence, I often take a political and philosophical perspective to most topics. I began studying an MA in Cultural Astronomy and Astrology at the age of 23 in 2018. From this study, I gained a greater understanding of astrology. I would not describe myself as an astrologer, however, I would describe myself as an academic of astrology.

[122] Hennick, Hutter and Bailey (2011) p. 19
[123] Geoffrey Dean and Arthur Mather, Recent Advances in Natal Astrology, (Subiaco: Analogic, 1977), p.7.

Before embarking on the research, philosophical and psychological conversations such as: what it means for something to be true and what makes a person think the way they do, were of great personal interest to me. Therefore, I had some assumptions and prejudices regarding the necessity of science to explain the mystical. I am sceptical of science in the modern 21st century understanding of the word. This was challenging for me to overcome but in order to address it I took the first step by being aware of the prejudice and recognising it in my reflexive considerations. Secondly, I made a conscious effort to consistently question myself throughout the research process, including reflecting on the type of questions I was asking and also looking for biases within the literature I was choosing to include or reject. The third step I took to address my research biases was to be objective throughout all points of the research. Reflexivity was an ongoing monitoring process throughout the research.

I also took care not to use my own hard definitions of words and allowed my participants the space to self-define contentious words such as 'science' if they wanted to do so, as I was mindful of Bell, who argues that I may have unwittingly used 'inappropriate language which might indicate strength of feeling.'[124] Additionally, I genuinely find this subject area fascinating and I have great respect of the research conducted by the astrologers participating. Therefore, I am open and willing to have my opinion changed, and importantly, to provide a balanced contribution to this academic debate.

Concerning the participant pool, I identified that all of my interviewees are exclusively white, mostly male and of a similar age range. I could not find any Black or ethnic minority astrologers who fit my criteria for selection. I questioned whether the lack of diversity in my research pool

[124] Bell, *Doing Your Research Project: A Guide for First-time researchers in Education, Health and Social Science*. (Maidenhead: McGraw-Hill Open University Press, 2010) p. 169

would hinder my results as the answers I received were all through a white and western lens. Further, I was concerned at the possibility I would struggle to build rapport having conversations with my interviewees are people with whom that I do not usually associate with. Therefore, a natural dialogue may be inhibited. However, Ron Geaves states

> Reflexivity is defined as the process of bending one's experience back on one's self or, alternatively, being conscious of ourselves as we see ourselves. The point is to remain seeing through the eye of the other; but reflexivity suggests that it is possible to reverse roles and ask the question: 'What would the researched say about our process of researching them?'[125]

To address this problem, I ask myself, 'how do I want my research participants to feel?'. I wanted them to feel comfortable to speak to me, to be relaxed and in an environment where they do not feel judged or feel the need to hold back. Therefore, whilst my concerns exist, they should not be brought into the interview. As Holloway suggests, subjectivity can be converted into a positive resource for the study.[126] Consequently, I will try to counteract my biases by reflexivity or by critically analysing my actions.

Furthermore, I am mindful that many of the participants are my course lecturers' friends, acquaintances and peers, which leaves me concerned that this research could be a potential echo chamber. I also recognise many of the names of the people I am interviewing from course material on the MA in Cultural Astronomy and Astrology, which adds to my concern about the limitations of the selection pool. However, I am working with a particularly limiting strata;

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[125] Geaves, Ron, *Twenty Years of Fieldwork: Reflections on Reflexivity in the Study of British Muslims*. (Chester: Chester Academic Press, 2007) p.1

[126] Immy Holloway, *Basics Concepts for Qualitative Research*. (Malden: Blackwell Science, 1997), p, 27-28.

astrologers who are predisposed to use science. Therefore, the available cohort is restricted, although I can still expect to find individual approaches and different perspectives on the same subject. There are likely to be many differences within the cohort including different backgrounds, interests and personalities. As I expected to be the case in any rarefied area of academic research the size and similarity of the research group might be limited.

In addition, I have read or watched some of my interviewees' academic work, resulting in the unavoidable awareness and preconceived ideas of what they might think. I need to be careful that I still probe them to the same extent as I would another individual whose work is unknown to me. The approach to take will be like I 'know nothing' without under playing my obvious foundational understanding of the subject. I must ask about their work and approach as a neutral party rather than assuming anything. Bryman did warn that reading theory before or in the early stages of research can prejudice the researcher before meeting the subjects.[127] However, in my case this was impossible to avoid due to the fact that I already had prior knowledge of their works before beginning the interviews due to personal interest and also some of the course materials on the MA.

Consequently, I do not to claim to be fully objective, neutral or to declare that all biases are removed because I have self-reflected on the above considerations about my own personal cosmologies. However, I felt it in the interests to disclose these biases now as advised by Potter's strategy of approaching reflexivity in writing up research.[128]I will continually monitor these issues throughout my report, observe my opinions and reflect upon them in the practice of self-awareness during the research. Ultimately, in my efforts to contribute to the field of

[127] Alan Bryman, *Quantity and Quality in Social Research* (London: Unwin Hyman Ltd, 1988) pp. 86-87
[128] W.J Potter, *An Analysis of Thinking and Research about Qualitative Methods*. (Mahwah, NJ: Lawrence Erlbaum Associates, 1997) p. 136.

science as an explanatory tool for astrology, my plan is to be clear on my motives. As Harvey states 'being clear about one's motives, interests and purposes is likely to aid a researcher in maintaining a focus on the goal of contributing to academic debate, but all researchers can expect to be tested in some way as they engage with others.' [129]

My Status: Insider- Outsider Practice- Far

My status for this research is both 'insider' and an 'outsider' as well as being a 'far' sometimes known as a 'distant' researcher. Practice-near methods of research tend to use techniques such as ethnography, in-depth interviews and observations – associated with the experience-near developed by Franz Kohurt and expanded upon by Clifford Geetrz. Distance research methods include questionnaires, semi-structured interviews and other broad forms of research. [130] Labelling myself as an insider was a complex decision because I am not a practicing astrologer, although I do study astrology. Nevertheless, according to Bird, my understanding of astrological language and technique would be enough to grant me one aspect of insider-hood, as the astrologer being interviewed would feel comfortable talking in their own discipline specific language. This argument based on Bird's discussion of ethnographic study of astrology:

> the initiation of my present project was predicated on my having that degree of familiarity with the astrological language, and experience of expressing myself in its terms to others of its speakers, which is the essential prerequisite for any researcher planning to embark upon an anthropological study of astrology and astrologers... My

[129] Graham Harvey, 'Field Research: Participant observation'. In: Stausberg, Michael and Engler, Steven, eds. *The Routledge Handbook of Research Methods in the Study of Religion*. (Abingdon: Routledge, 2011), pp. 224.
[130] Lynn Frogget & Stephen Briggs, 'Practice-near and practice distant methods in human services research' *Journal of Research Practice*. 8 (2012) 1-17

knowledge of the language of astrology was central to the design, development and execution of this research.[131]

Like Bird, my understanding of astrological language was central to some of the questions asked in the interview stages, which also aided my understanding of some of the responses. Additionally, the benefit to my somewhat insider status, alongside my understanding of astrological language, is that I was able to select a small target group of participants based on their previous research. I knew of the appropriate sources to search in order to find participants in the field. Complete outsiders to the field of astrology would have found this task more difficult and may not have noticed the subtle differences approaches to astrology, especially if they did not have previous knowledge of the astrology-as-science vs astrology-as-divination debate. As an insider, it is necessary to reflect more on my personal feelings than would be necessary for an outsider. The above reflexive considerations section has addressed this.

Conversely, I have outsider traits of inexperience and being new to the study of astrology. In her MPhil, Lindsay Radermacher expresses that the insider position transcends beyond familiarity with technique 'the deeper understanding and more subtle application of these [astrological] symbols requires a level of experience that can only be developed through practice, and over time.'[132] I do not have full astrological understanding gained from years of practice. According to Kikumura, in social research being an outsider is beneficial because 'access to authentic knowledge is more obtainable because of the objectivity and scientific detachment with which one can approach one's investigation.'[133] From my hybrid insider-

[131] Alison Gwendy Bird, *Astrology in Education: An Ethnography* (unpublished doctoral thesis, University of Sussex, 2006) p,6 .
[132] Lindsey Radermacher, *Role of Dialogue in Astrological Divination*, (MPhil dissertation, University of Kent, 2011) p. 90.
[133] Akemi Kikumura, A. 'Family life histories. A Collaborative Venture', *The Oral History Reader*, ed. Perks, R & Thomson, A (London: Routledge 1998) pp. 140 -141

outsider position I am still able to be objective about specific astrological techniques and interpretations my participants might present. Had I been a practicing astrologer, I might have more passionately disagreed. From my outsider perspective, I do need to reflect and focus more on the appropriate research methods for astrology.

I consider myself 'far', due to my approach to the research methods that I engaged with, namely, online semi-structured video interviews via Zoom. Scientifically-oriented astrologers happily engaged with the request for research involvement, many stating they would be 'thrilled' to contribute to the research. Harvey explains that 'recognition of the inadequacy (conceptually and practically) of the 'insider/outsider' dichotomy has lead to a range of more participative, reflexive and dialogical positions and performances'[134] This could be because of the relatively niche and contended group that scientifically-oriented astrologers fall into. Therefore, they may be more inclined to actively communicate their ideas. This view is supported by Clark who suggests that at a collective level, people engage in research to increase representation and to inform change.[135] Overall, participants were willing to share their personal views on science and astrology despite my insider-outsider far status.

[134] Graham Harvey, 'Filed Research: Participant Observation', in *The Routledge Handbook of Research Methods in the Study of Religion,* ed. By Michael Stausberg and Steven Engler (London ; New York: Routledge, 2011), p228.
[135] Tom Clark 'On 'Being Researched': Why Do People Engage with Qualitative Research?' *Qualitative Research*. 10 (2010), pp. 399–419

Report on Findings:

After the interviews were conducted, I was left with over 50 pages and approximately 35,000 words of transcribed conversations from the participating scientifically-oriented astrologers. The results of the findings displayed only one consistent and shared opinion between all participants; that there is a correlation between the celestial bodies and life on earth, this commonality is not surprising considering I was interviewing astrologers. The more surprising result may be that there was no consensus on the issue of whether there is a reason or causal mechanism for the correlation and whether the correlation is a scientific or mystical phenomenon. Beyond an agreement that astrology exists, there was very little consensus about anything else. The huge difference in responses reflects the intricacy of the astrology and science debate. Demonstrating that even within the subcategory of scientifically-oriented astrologers, there is an abundance of ways of thinking about astrology, cosmology and science. The broadness of responses was likely reflective of the different disciplines that are being drawn upon even within the scientific niche. The subsequent four chapters will look at these results in greater detail focusing upon the key subject areas of: essence, intuition, science and the cosmos.

Findings Chapter 1: Essence of Astrology

As mentioned in the literature review, one of the most significant discussions in this research project is about the essence of astrology; this chapter is concerned with findings that address this matter. The first viewpoint to be displayed from the findings is from those who do not view astrology as a causal, physical science. Contrary to expectation, this was a popular mindset considering the astrologers in question are all scientifically-oriented.

Participant A stated:

> "…we can't say that it's not scientific. It is an interpretive art…. I think you're kind of asking me: 'is astrology a science?' and I'm going to have to say 'no'.. can it be science? I'd say there's an awful lot of work to be done…."

When encouraged to explain further, they settled on calling it 'a language art' likened to the nuanced differences of the British and American accent:

> "Look at the difference between the British accent and the American accent. Not only do we use our vowels differently, but we have different words as well for the same thing… People don't realise what a vast field astrology is, it's not just sun signs or funny memes. It's a vast array, it's a pallet, it's a huge thing where every sort of variation is possible."

This idea of astrology being an art is replicated by Participant R:

> "I think the practice of astrology is more of an art… astrology can be scientific, but we have to look at the practice of it… most astrologers do not use science when they practice astrology."

This leaves space for divination to possibly account the practice of astrology, though clearly this is hardly conclusive.

In contrast to Participant A and R, some respondents believe the essence of astrology is scientific. For example, Participant T:

> "astrology is a field. I think it's a science… astrology comes from quantum physics. It won't be that much of a stretch to go from quantum physics to astrology. Because quantum physics basically explains all the rudiments of astrology anyway."

This participant believes astrology is a natural law 'probably sourced from the same area as gravity'. They add: 'I think they'll [scientists will] crack it [astrology] by the end of this century.' Quite explicitly, this participant's stance views astrology as a physical science. Though for clarity, the position that astrology comes from quantum physics is vastly different from the position of someone who believes astrology conforms to classical science.

Additionally, Participant P says:

> "astrology as a whole is a very broad area, that it encompasses a lot of different types of belief and practice, some of which you could argue are not as scientific as the rest"

However, Participant P claims:

> "I think because astrology makes claims that there is some kind of correlation drawn implicitly between planetary positions and birth and character and personality, that is inherently a scientific claim, even if astrologers don't necessarily like to think of themselves as scientists because quite a lot of them are very spiritually-oriented people and perhaps don't necessarily, in all cases, have a scientific background, and maybe wouldn't prefer to think of it as a scientific discipline at all, but actually the essence of [a] factual claim that somebody with x planet in position y is going to be like this, whereas somebody with the same planet in a different position is going to be like this, that is a scientific claim. It is therefore logical and rational to treat at least elements of astrology as a claimed science."

As hopefully is already apparent from the arguments built in the paper, the essence of astrology is many shades of grey rather than black and white. Participant V demonstrates this when they answered that astrology is:

> "not magic nor science… Actually, I do not know what astrology is but what I know is that I just examine astrology with scientific tools, but it does not mean that astrology is science either."

Although Participant V does not think astrology is magic, they still state that 'actually, for me, astrology is the only true magic in my life.' In context they were saying that astrology is magic

to them because of the unknown. This is fitting with Cornelius' argument that an astrologer is comparable to a magician.[136] The response perfectly captures the enigmatic nature of astrology.

Participant B says:

> "if astrology is as I say it is, a subject, then there's another category called research and another category called theory. In those areas, you want to start building up evidence for these things which can help the practitioner down the road."

They continue that astrology is also 'a practice and in that sense it's an art. Demonstrating that there is a place for both art and science within astrology as a wider subject.

This section has focused upon the interview answers that discuss the essence of astrology. Some common opinions reoccurred including those who regard astrology as a science, an art, or an unknown. This as a concept encapsulates some of the complexity of the essence of astrology conversation. Whilst it would be nice to fall on a conclusive answer on the essence of astrology, it is doubtful if this will ever be achieved. The only conclusive thing that can be decided is that there remains a constant unknown in both the theory and practice of astrology. The chapter to follow will explore some of that unknown mystery.

[136] Geoffrey Cornelius, 'Geoffrey Cornelius – Interview' by Garry Phillipson http://www.astrozero.co.uk/geoffrey_cornelius_interview.pdf [accessed 22 December 2020] p. 15

Findings Chapter 2: The role of intuition

This section of the dissertation deals with the theme of intuition, which was first outlined in the definitions section of the paper. In this section of findings, I will explore whether intuition exists and if so, what the role of intuition is within astrology.

To explore the topic of intuition, I asked whether a computer could hypothetically do the job of an astrologer, based on the assumption that a computer is unable to model intuition. If astrology was solely scientific then a computer, in theory, could be programmed to do the job of an astrologer. When asked if a computer could be more powerful than an astrologer, Participant V replies:

> "Better than an astrologer"? It could be but I wouldn't claim that too loudly. Indeed, I designed an expert system implemented in a software called [x].[137] I worked on it for 14 years with a collaborator. It would be perceived as extremely arrogant and "anti-spiritual" to make that claim, which would sound as if I was denying human intuition. As a matter of fact, there is "something" that resists all the time to the machine, that we associate with intuition."

Participant B believes that the human element of astrology in astrological counselling is essential:

[137] Redacted for anonymity

> "I think that people need to see another person. They need to have contact, even if it's just by phone. Voice contact, it's an important element of it…(but)… maybe a well written software programme for astrology can produce the data that you want and then you're done with it."

Participant T believes computers can be flawed in the same way as astrologers commenting:

> "I do not think any astrological reading can be 100% comprehensive so that would also apply to computers."

Participant B believes that intuition 'in the practice of astrology' is 'very important because you're dealing with a lot of data that has to be synthesised' but this is not unique to just astrology or makes astrology any less scientific. Participant B declares, 'There's a role for it (intuition)' asking 'don't you think a really good psychotherapist uses their intuition?' Participant B also proclaims, 'to do astrology well, you cannot just follow a cookbook you need to be interpretive.' They are saying there is an element of astrology that requires human elucidation, but a computer can aid some of the technical work, adding:

> "I think in the practice of astrology, very important because you're dealing with a lot of data that has to be synthesised. When you look at a chart, especially if you put in a lot of extra points, you have to be able to jump to conclusions rapidly rather than spending a whole day sorting through the data logically."

Again, Participant T is 'a great believer' in intuition. They previously recalled as believing astrology is a science and the presence of intuition does not make astrology less scientific according to them because:

> "intuition usually tells you something but then you can go and be objective about it and prove it"

Participant A had given some of their findings to another astrologer to process through computer software. I asked if they are concerned about the interpretation of results and they said:

> "I don't worry, I want to know the definitive answer, so I can't get worried about whether or not it agrees with what I've said"

It isn't entirely clear whether they believe intuition doesn't exist resulting in the lack of concern for who was processing the data, which caused further probing on whether there are any definitive answers in astrology. Participant A believes:

> "Yes and no, it depends on the question. Having read and watched a lot of online conversations between astrologers and sceptics, I think it depends very much on the questions that you're asking because I can argue that the sky isn't blue and come up with a different answer. Is there definitive answers in anything?"

Contrastingly, Participant R thinks that

> "People can get different answers, and some people say its divination, some people say its intuition. It could be PSI, whatever it is, that isn't, I don't think that's testable and I don't think its scientific at this stage. It might one day"

Participant P says:

> "I do not think intuition at the level of reading for an individual is necessary to account for astrology seeming to work…[astrology has] a huge caucus of interpretations for particular placements, which are not linked to intuition, they're not linked to individuals either."

Adding, that for an astrologer running a professional practice,

> "intuition can be a helpful guide on where to take the reading."

Although my respondents reveal that there is clearly an element of intuition within the practice of astrology, there could also be something else because multiple participants mention their work getting better with age and experience. Cornelius argues that the experience of an astrologer does not improve the results in a test of astrologers.[138] If astrology was purely intuitive, then there would be no scope improvement over years of practice however, my findings show this to be untrue. Participant T anecdotally says:

[138] Geoffrey Cornelius, *Moment of Astrology: Origins of Divination* (Swanage: The Wessex Astrologer, 2003), p.76

> ‘I was doing readings probably 15 years after I learnt astrology, but it really was not until the thirty-year mark that I felt I had some sort of competence. The trouble is that you do not know you do not have competence until you have it. So, all those poor people I talked to in the first thirty years… I’m glad I was not them.’

This could suggest that intuition is not a mystical or magical occurrence but could is actually unconscious logic that can be built upon over years of experience, which results in unconscious rational thought and thus still scientific.

This chapter has discussed the major theme of intuition, which is important to consider when investigating the scope of science as a tool to explain astrology. Intuition has been shown as the one agreeable facet all interviewees concluded was part of astrology. Regardless of what intuition is, there is a consensus within my respondents that it does exist and is used.

Findings Chapter 3: Scope of Science

This section will examine the scientifically-oriented astrologers' views on the principal research area of the paper, which is scope of science as an explanatory tool for astrology. Inevitably, science has a place in astrology for all participants but as the above section indicates, intuition can leave doubts on whether the practice of astrology is scientific.

Some individuals call intuition a psychic ability, but that it does not necessarily sit outside of the scopes of science. Participant B argues:

> "when people say psychic what they really mean is intuition, and intuition is the capacity to put together thoughts without rationally thinking them through"

Participant A believes that the scope of science is limited:

> "we use it [science] in ephemeris, the position of the stars… and when we are talking to clients about a difficult transit or a difficult time, we're using counselling skills to help them"

Also adding, commentary on astrology used for entertainment:

> "there is real value"

> "I think a lot of astrologers do the field no favours in that they are guilty of cherry picking and confirmation bias and whatever else you want to throw at them. You know, when you go to an astrology conference, they're clearly not being scientific at all, but

> they are using methods that are very frowned upon in the scientific community. But it makes great entertainment, right?"
>
> "I do think there is a good part of being an astrologer that's from the entertainment side of things."
>
> "I call it light relief"

When this participant says 'the entertainment side of things' they are talking about astrology that is done purely theatrically such as for social media or astrology that is based upon absolutely no scientific research and testing. Their response suggests that they do not think science reaches the scope of entertainment astrology but that does not deduct from the value of it. This participant previously said, astrology is 'an interpretive art' and as such science cannot account for all of it. From their point of view there are remits of astrology outside of science. Highlighted further by their comment:

> "I'm saying we're never going to get a definitive answer. We can probably run tests on the Hellenistic point of view, but how are we going to do that? I guess you could, but it comes back to 'what is the question?' if someone gets a prediction wrong does that mean it invalidates whatever they were using? … If the weatherman comes on and he says it's going to rain and it doesn't, does that mean that meteorology is invalidated? It doesn't."

Similarly, Participant P thinks that:

> "because astrology as a whole is a very broad area… it encompasses a lot of different types of belief and practice, some of which you could argue are not as scientific as the rest, for instance, there are people who practice forms of astrology called karmic astrology and evolutionary astrology which make specific claims about past lives, and from a scientific perspective it's very, very difficult, if not impossible, to prove, first of all, that past lives are a real thing in the first place"

Participant T stands that science has the scope to account for all of astrology. They assert:

> "I think it's a science, I've even worked out when science will probably acknowledge astrology, or some simplified version of astrology. I think they'll crack it by the end of this century… I can see where astrology comes from quantum physics."

Participant V believes that science doesn't have the scope to explain astrology, but it can:

> "Not explain, just establish positivities, to be sure there is really something. It's more than that, it is not only establishing validity. It is also about knowing what really works and what doesn't work."

Participant R thinks understanding the extent of scope of science is complicated:

> "There's different ways of looking at that. If I was to say in a consultation 'how much is based on science?' at the moment, most astrologers, most of what they say is not based on the scientific method. I'm talking perhaps 90-95% on the scientific method.

> If you're talking about the evolution of the subject through thousands of years which is like many anecdotal cases that develops a theory over people - people weed out of things that don't work. If you're talking about that type of science, then 90% of it. Probably is 10% that might be intuitive, or the astrologist is trying it out because they don't know if it works or not but 90% is. It's a different, older, scientific method and it's less rigorous and it's less objective but it is nevertheless incredibly valuable."

This chapter has looked at responses which address the scope of science as a tool to account for astrology. For the most part, participants seemed to agree that science as we currently know it does not have the ability to account for all of astrology. If astrology does contain some type of mystical element (intuition or something otherwise) these appear to be outside of the remit of science. The ensuing chapter will look at responses through a cosmological lens. It will piece together the previous sections in order to reach an understanding of the nature of the cosmos as seen by scientifically-oriented astrologers.

Findings Chapter 4: Personal Philosophies and the Nature of the Cosmos

Is truth in astrology unique case or repeatable?

The previous chapter analysed the scope of science as an explanatory tool for astrology, this chapter shall consider what the scope of science reveals about the participants beliefs in regard to be the nature of the cosmos. The belief that science can account for and test all of astrology is doubtful when considering the idea of an ever-changing cosmos. This is because if the cosmos is living, it is constantly evolving and developing, which means science (that tries to exclude variables) would never be able to account for astrology satisfactorily.

On this topic, Participant A answers:

> "I think what it comes down to is: Is the cosmos a living thing or is it dead? To examine it under scientific scrutiny is an approach that resembles an autopsy. There's no respect, no sense of awe or inspiration. I think astrologers in general view the cosmos as a source of wonder as if it were a living thing that is perfect as it is without a need to dissect it for the sake of learning something that may or may not be useful. This rather touches on Geoffrey Cornelius' question about whether or not astrology is divination. I think it is in that the practice of astrology is very much like appreciating the Cosmos and what it can tell us as opposed to destroying it as if humans had either the power or the right to do that. Having said this, I still think astrologers can tighten up their techniques, continue to question their practices and work towards responding to sceptics. However, Astrology is a personal journey and therefore perhaps some astrologers think that they do not have to justify themselves to others."

Participant T comments on the inaccurate way sceptics view the cosmos:

> "the rejection of astrology comes from a point of more ignorance about the cosmos than clarity."

Participant B shared this thinking and claims:

> "This would be a philosophical conflict - astrologers, for the most part, seem to hold to a kind of monistic idealism, that all is consciousness. Critics, who are usually in line with mainstream science, are monistic materialists, aka physicalists. So, this issue is an ontological one and it continues to be argued in philosophy and the sciences."

Running simultaneously with the conversation about the nature of the cosmos is the question of whether truth in astrology is a 'unique case' or repeatable. The unique case is described by Cornelius as 'context-determined and non-replicable instance of divination.'[139]

Participant T argues that the problem with critics is:

> "when they do occasionally 'test' astrology, they are really testing their conceptions of astrology (which are wrong anyway), and their 'experiments' confirm that their concepts of astrology has now been proven wrong, and therefore astrology is invalid. It's like a form of catch-22!"

[139] Geoffrey Cornelius, *Field of Omens A Study in Inductive Divination* (unpublished doctoral thesis, University of Kent, 2009) p. 47.

The concepts they are testing are the idea that astrological claims are completely repeatable and therefore are able to pass the experiments concocted. However, if the cosmos is ever changing then there is not necessarily any test of astrology that can result in repeatable results and each case is unique as the cosmos constantly changes around us.

Participant V appears to sit on the 'repeatable truth' position within the astrology and truth conversation, which is demonstrated by their opinion that there is the possibility of gaining observable facts. This indicates that the truth can be repeated so the cosmos must not be an ever-changing wonder. They say:

> "to find explanations for the mechanism of astrology… we need… "positivities"'

Participant A approaches this with uncertainty saying 'we're never going to get a definitive answer' to astrology, indicating a position compatible with the idea that truth in astrology is always a 'unique case' though, Participant A does not think that one can ever find repeatable truth in astrology:

> "There are ways that you can show how astrology can be more precise. I think that's the wording I want to use 'more precise' and less of the confirmation bias, I think."

Participant B also shares the view that repeatable truths are not part of astrology:

> "I think there is as much absolute truth in astrology in some aspects of astrology certainly, as there are in psychology or medicine. But because astrology is not a hard science, it's an evolving science, some of these truths change."

In conclusion, the approach the participants take to testing astrology tend to reflect their opinion on the nature of the cosmos. The nature of the cosmos is generally viewed in two ways by the scientifically-oriented astrologers; either as completely scientific and thus allowing space for repeatable testing. Or, a living and responsive cosmos, which would facilitate the concept of a unique case within practice. Those who do view the cosmos as living have distinctive personal cosmologies because they are recognising the ever-changing nature of the cosmos whilst still applying scientific methodology to their astrological practice, which on the surface would appear contradictory unless using the principles outlined by Brockbank in his explanation of a responsive cosmos.[140]

[140] See Literature Review

Analysis of Findings

The responses were multifaceted and rich. On the essence of astrology, some answers clearly distinguish astrology as a practice and did not mention the theory of astrology. This result is signifying that a conscious differentiation is being made between the practice and theory of astrology before commenting on viewpoints. It corroborates the advice of Mayer, previously discussed in the paper, who says one needs to distinguish between the practice versus the theory of astrology before commenting on its validity. This separation will help untie the difficult relationship between astrology and science. Participant V inadvertently supports Mayer's argument; they view the practice of astrology as scientific but the theory of astrology as magic. Michael Shallis' research would also enhance the comments made by the participants as he writes 'modern scientific research and astrology are different kinds of activity. Astrology is derived from given Principles, research from theory and empirical data.'[141] The quote from Shallis supports the arguments made by my participants that the failure of astrology to meet scientific rigour is not an indicator of astrology being completely false, instead, it could be that astrology belongs to a different world view. The above participants who refer to astrology as an art may well be indirectly alluding to this; if astrology contains elements that are subjective as one would expect art to be, then this would adequately counteract the criticism about its failure to meet science's standards. The complexity of this topic is made clear due to the fact the astrologers (Participants R and A) have used scientific methods in their research even though they think astrology is an art. Dennis Elwell also comments on the topic of astrology and science but focuses on the need for change amongst practicing astrologers ''…for the first time it is legitimate to speak of astrology as a science, since it is now possible to discuss how and why its effects arise.'[142] However, he adds that 'it cannot be treated as a science in its own

[141] Michael Shallis, 'Problems of Astrological Research', *Correlation*. 1 (1981) p, 41.
[142] Dennis Elwell, *Cosmic Loom: The New Science of Astrology* (London: Unwin Hyman, 1987), p. vi.

right unless it becomes thoroughly cosmocentric in outlook, which means investigators must be prepared to be instructed by the phenomena, understanding them in their own terms. At present astrology seldom does that.'[143]

When analysing the responses regarding the essence of astrology, a statement by Ruperti comes to mind: "the notion that 'an astrology with a capital A which exists somewhere, has always existed, and to which we should all submit ourselves or be faitful to.. is merely the result of our imagination." [144] Ruperti's suggestion indicates that astrology is a multifaceted discipline with no one single descriptor. The vast discrepancies between answers in this particular area is not surprising as the answers above are a loose demonstration of Elwell's point that there is a 'dramatic disagreement on fundamentals.'[145]

Understanding the essence of astrology remains elusive. Charles Carter wrote 'as within, so without. I know that many astrologers detest what they consider to be the mystical; but I see no other rational explanation of facts.'[146] The consistent and reoccurring idea amongst participants that there is an element of astrology that is beyond comprehension strengthens Carter's statement. Some astrologers presented in the above sections are positive science will catch up with astrology and be able to explain it in scientific terms one day but until that point, astrology remains a mystery. However, the agreement on the duration of the mystery element in astrology is short-term for some because they believe astrology will soon be understood. Phillipson put forward the theoretical possibility that if astrology was an ubiquitous law, like the law of gravity, then it would likely be welcomed back into the mainstream science

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[143] Elwell (1987) p. vi
[144] Alexander Ruperti, 'Meaning of Humanistic Astrology', (2002), in Nicholas Campion, *Prophecy, Cosmology and the New Age Movement: The Extent and Nature of Contemporary Belief in Astrology,* (Unpublished doctoral thesis, Bath Spa University, 2004) p, 124
[145] Dennis Elwell, *The Cosmic Loom* (London, Unwin Hyman, 1987)
[146] Charles E. O Carter, *The Astrological Aspects* (Pomeroy, WA: Health Research, 1934), p.14

community '… the discovery of the mechanisms by which it [astrology] works can only be a matter of time, and likewise it is inevitable the science will eventually recognise that astrology works and welcome it back to the faculty of respectable studies'[147] When discussing the essence of astrology, Participant V would support Phillipson's hypothetical statement, confident that astrology is a science but the current scientific methods we use have not caught up to the complexities of astrology yet.

As previous findings have displayed, to analyse the scope of science, it must first be identified whether astrological theory or practice is being considered. The nature of astrology must be distinguished before the scope of science can be evaluated, implying that science is not at all adequate to account for all of astrology, or it would also be completely applicable within the practice of astrology as well as the theory. The scope of science as a tool to account for astrology also somewhat relies on the methodology of the scientifically-oriented astrologer. Eysenck for example writes:

> 'For the past few years, Dr David Niss and I have been looking closely at the literature which has been accumulating with respect to the scientific testing of astrological hypotheses. We found much of the material interesting and suggestive, but we are most impressed by the weakness of the scientific methodology employed by most of the authors.'[148]

Eysenck and Niss are saying that the science used in astrology is not standing up to the test methodologically and therefore, there is very little scope for science to account for astrology

[147] Phillipson, *Astrology in the Year Zero* (London: Flare Publications, 2000), p, 182.
[148] Hans Eysenck, 'The Importance of Methodology in Astrological Research', *Correlation*. 1 (1981): p.11.

given the current methods adopted. One must also return to and contemplate this topic in relation to the varying definitions of science that were presented at the beginning of the research. As Chalmer says, there is no one all-encompassing definitive science.[149] Therefore, discussing the scope of science must take into account different definitions of science. Furthermore, the scope of science depends very much upon what the essence of astrology is. If astrology is completely divinatory in its nature, then there is no scope for science to account for the unknown. It is necessary to also review some of the ideas about intuition presented above. If intuition is an unexplained and spiritual incident, then science does not have the scope to explain, whereas, if intuition stems from logic then there is more space for discussion about the ability of science to explain astrology. On the topic of intuition, Aaron Sloman shows that if humans were to design artificial intelligence (AI) that can make decisions by placing logic into larger context, then computers may be capable of intuition in the future.[150]This research could be applicable to the astrology and science conversation, especially the question on whether a computer can replace an astrologer. However, this type of computing ability does not exist so it would only be relevant in the future if technology was to advance. David Cochrane holds more hope for the utility of computers than most of the interviewees and, although not popular in his arguments, said that 'in the coming years astrological techniques will become increasingly more sophisticated and astrology will become increasingly more computer dependent.'[151] Cochrane could be correct if computers are able to model intuition. However, this complete eradication of the astrologer disregards anyone who believes that astrology is a form of divination and those who think the cosmos is something other than scientific. The philosophical problem with assuming a computer system can take the place of a person is assuming that a computer can replicate 'conceptual schemes, sets of belief, modes

[149] See Definitions
[150] Sloman (1971) 270-277
[151] David Cochrane, 'An Interview with David Cochrane by Garry Phillipson', *Astrosoftware* https://www.astrosoftware.com/interview.htm [accessed 10 November 2020]

of reasoning and types of language.'[152] Terry Dwyer on the other hand, does not think that computers need to model intuition because the 'abolition of so-called intuition' would expose inaccuracies and subjectivity in astrology.[153]

The dialogues above are part of the wider and overarching discussion in this paper about personal cosmologies. To begin with, Weidner thinks that a new ideological pluralism is evident in astrology, which makes astrology completely independent of astronomy and within the practice of individual astrologers.[154] However, the belief of Participant R is that astrologers believe all is consciousness. Participant A seems to accord with this, as they discuss the 'awe' that a scientific analysis of the cosmos is unable to capture. Returning to the literature review discussion on cosmology, it is likely the sceptics some of the participants refer to are possibly thinking of a mechanical and scientific view of the cosmos. This is likely due to little awareness or respect given to other cosmic models such as the ancient living cosmos of Plato or the responsive cosmos model offered by Brockbank. Many of the respondents were shown to have a personal approach to astrology and shared a view that astrology is not necessarily capable of repeating findings to prove them. These responses demonstrate a 'unique truths' stance towards astrology, particularly on the practice side. There are substantial claims that astrology is, in its very nature, untestable, and that its claims can never be subject to scrutiny under controlled conditions. Some say that astrology depends on the unique time, date and place for which a horoscope is cast and, as this combination data never repeats, so there can be no replicable experiments.'[155] Furthermore, in the Correlation Journal, Glenn Perry writes that 'while quantitative methods are privileged in astrological research, they may be ill-suited to astrology

[152] Aaron Sloman, 'Interactions Between Philosophy And Artificial Intelligence: The Role Of Intuition And Non-Logical Reasoning In Intelligence', *Artificial Intelligence*. 2 (1971) 277
[153] Phillipson (2020) p, 123.
[154] Christopher Weidner, 'Astrologie—eine nützliche Fiktion'. *Zeitschrift für Anomalistik*. 2 (2002) 197–204.
[155]Campion (2009) p, 271.

as practiced. Qualitative methods provide a viable alternative. Not only are they inherently compatible with the astrological worldview, they are more likely to yield meaningful results by deepening one's understanding of a given topic area.' [156] Perry's argument supports the idea that within astrology each case is unique, hence making qualitative methods more suitable for research.

Participant B's distinctive suggestion, which recommended looking at astrology as a subject, could be an approach that marries all viewpoints together in harmony. If protagonists in this discussion were to consider astrology as a large subject containing many variants in the same way, one might consider economics (which contains, theory, practice, models and experiments) then all of the differing compartments and beliefs about astrology could be compatible under a bigger umbrella. Economic theory is simply just theory and almost never manifests empirically, yet economics does not lose academic respect in the same way astrology does. Rational choice theory, for example, has been repeatedly discredited since assumptions about human behaviour can never be modelled but it is still existing as a central underlying paradigm in most economic theory.[157] The difference is that 'modelling' in economics is used as a tool to help understand market forces, which are otherwise incomprehensible and difficult to define. There is no pressure for economic models to be completely true; they 'do not explain' and do not qualify with science but are used as imprecise tools to guess predicted general outcomes.[158] Should the discipline of astrology begin to consider readings as vague interpretations or consider astrology as a larger subject encompassing many components (some demonstrating more testable hypotheses than others) it may aid the discussion on the truth status of astrology.

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[156] Glenn Perry, 'A Brief Introduction to Qualitative Research in Astrology', *Correlation*. 32 (2020) 63-69
[157] Amartya Sen, 'Rational Fools: A Critique of the Behavioural Foundations of Economic Theory', *Philosophy and Public Affairs*. 6 (1977), 318-321
[158] Anna Alexandrova and Robert Northcott, 'It's just a feeling: why economic models do not explain', *Journal of Economic Methodology*. 20 (2012) 262

Conclusion

The aim of this paper has been to research the cosmologies and philosophies of scientifically-oriented astrologers in order to reach an understanding about the adequacy of science as a tool to explain astrology. This work upholds the existing deductions by Campion and Greene, who said 'no two astrologers appear to be able to agree on what it is they believe in, how they define their work, and what metaphysical or religious framework, if any, they espouse to justify what they do.'[159]

One of the most significant findings to emerge from this research tends to substantiate the complaint of Dean et al about 'the dramatic disagreement on fundamentals' amongst astrologers. [160] While Dean et al's focus was on horoscopic techniques, this research suggests that their findings are the case at a more philosophical and cosmological level as well. Dean et al's commentary does not cover as much ground as the research presented in this paper or the observations by Campion and Greene in the previous paragraph. Dean et al would interpret the results of my study as meaning astrology is not true, but that analysis is only applicable through a world view that suggests that physical, causal science is the sole arbiter of truth. The findings in this paper suggests that most astrologers, even those who favour a more hard-science approach, do not have a solely scientific understanding of cosmology. An alternative way to look at it would be to consider that we live in a responsive cosmos, like that suggested by Brockbank.[161] Then it is valid that the cosmos would respond uniquely to every individual, which would substantiate the divergence of opinion, thus rendering it expected.

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[159] Nicholas Campion and Liz Greene, 'Introduction', in *Astrologies: Plurality and Diversity*, ed. By Nicholas Campion and Liz Greene (Ceredigion, Wales: Sophia Centre Press, 2011), p. 13
[160] Phillipson (2000) p, 157.
[161] See Literature Review

The second major finding in this research was that it is imperative to separate the practice and the theory of astrology in order to have acute discourse about what astrology actually is. A benefit of this distinction is the possibility that the theory of astrology itself can be detached from the practice, which is more susceptible to human error. This would allow the theory to be studied in its own way outside of quantitative tests. Furthermore, it may encourage those who engage in debates about astrology to begin thinking of the theory as something other than science.

In summary, it can be said that the lack of agreement about the nature of astrology and the scope of science to measure astrology is not akin to the feasibility of astrology being true. Instead, it is a reflection of a disagreement about what astrology is and the nature of the cosmos within which it sits.

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Appendix

Participant A Interview

Korinna: From what I've read of your research, you have done a lot of studies of adolescents and the moon, and how that affects their behaviour. So I wondered if you could explain more about your research and what led to it, and how you ended up down that specific avenue?

Participant A: Well, I entered the field of astrology as a sceptic. I thought astrology was a load of shit. It started by my mom reading my sun sign and she said 'You're a Cancer' and she said 'Cancer means you're home loving and shy' and I thought 'what?!… that doesn't make any sense.' I guess I was quite young, I was maybe ten, maybe nine, when she said this. I just thought it was rubbish and going through high school I listened to various discussions from teachers and they were very down on astrology. My birthday is July 20th but I always said I was more Leo. When someone would ask what my sun sign was, I would always say 'I'm on the cusp of Leo.' I would never admit to being a Cancer. It was in university when I studied behavioural psychology and when we got to stats, I wimped out because I didn't like it and then I started doing more Freudian, Gestalt psychology kind of stuff. I was always kind of leaning towards the softer psychology, but you know, an interest in astrology stayed with me and one day a college friend of mine said to me 'are you a Leo?' and I said 'no actually' (because I knew she was an astrologer) and just to be contrary, I said 'no I'm a Cancer' and she said 'oh but I bet you have something in Leo' and so she did my chart for me and I found out I have the moon in Leo so it made perfect sense to me. And my ruling planet is also a Leo, Mercury is in Leo. My ascendent is Gemini. So that really started me off studying astrology because I thought 'wow there must be something in this' and I got more and more into it. I eventually did the MA too, I did the MA at the same time I was a single parent with three children and I was doing my teaching degree and I was doing the Faculty of Astrological Studies diploma so I had a lot going on!

Korinna: Wow, where did you find the time?

Participant A: I guess I was really motivated to do it; I think my progressed moon might have been in the Gibbous phase, I think and I just felt this overdriven urge to get things done, to achieve things. So on the first day of my teaching job when I got hired as a teacher, my real name is [removed] and don't like people to know that but that is my first name, and my head teacher was calling me [removed] and I said you know 'I don't like this name, nobody calls me this name, do you mind calling me Participant A?' She says 'well okay, we'll think about it' so she must have googled it and came across my website and the next day I was formally summoned into her office and she was very clear that you know, if a parent complained about me being an astrologer that I could lose my job. I could be accused of bringing the school into disrepute because it was a Christian academy so anyway, the students didn't know I was an astrologer and the parents. We kept it a secret. The teachers did. I was working in behavioural on the behaviour database and I was in charge of monitoring behaviour of teenagers. You can imagine some days were really bad! We were having a bad day. So all the behaviour managers, we're each in charge of a year group and one of the behaviour managers said, 'it must be a full moon' and I thought to myself 'but it's not a full moon, it's a new moon' so I thought it would be great if I could somehow get the time to sort this data out. So I did a couple of tests once and thought there was something there, but I didn't have the time to do it. But I finally got it done, I did non-consecutive years and I found that there was more incident sheets at the new moon rather than the full moon, and other things too like the bad

behaviour was occurring when the node was square to its axis so away from the eclipses as well. It was my first paper done that way. But I've done other things too with the data, like I've shown that group Jupiter return children are more likely to get in trouble for disruption, Saturn opposition children are more likely to get in trouble for not doing enough work and there's this sort of Uranus, sextile Uranus about the age of 13 where they're more in trouble for defiance. So I thought that that really suited the transits. That's how I work, and I don't do a star sign column although have written them. I'm always working on this lunar thing, well always working… not really… it's really tedious doing this stuff and my stats isn't great because like I said, I dropped the course. Robert Currey helps me a lot, and a couple other people help me fill in the gaps. I did two non-consecutive years, but I actually have 6 years of behaviour, so I have 29,000 entries. I've done 4,000 of them of that study, you've probably read in Correlation, but I need to tidy up my methodology a little bit there are some things that I think I need to make a bit clearer because Geoffrey Dean is on my ass apparently. He thinks that I haven't considered that there are some new moons and full moons that don't occur within the academic year when in fact I have considered that, I just didn't make it clear in my methodology. So, you know being a scientific researcher, it's like Robert Currey said, it's like the model T ford: the first try isn't exactly the end product, it's an ongoing process, so.. I hope I've answered that question...

Korinna: You have, thanks. So, when you're talking about you have 29,000 pieces of data and you're looking at comparing them, do you think that's something that a computer would be able to do? Or the astrologer needs to be involved in that analysis?

Participant A: Well I've actually passed it over to Robert Currey and his team is doing that now. Because it is too much for one person to do. I was doing it with excel and I was manually doing it with the way I started out because I wanted to make sure that there was a correlation there, that there was something going on. To be honest I'm still not sure when the oldest is finished there may not be a lunar effect the way it was in my initial research. I could have got lucky or however you want to use that word. It's an ongoing process.

Korinna: Do you worry about the interpretation? Like what Robert Currey would find versus what you might have found?

Participant A: I don't worry, I want to know the definitive answer, so I can't get worried about whether or not it agrees with what I've said. It worries me a bit that someone like Jeffery Dean, someone who seems determined… that he's going to resort to straw man tactics, that a lot of scientists do against astrology. They accuse us of cherry picking, well they straw man a lot, so that worries me a little bit but you know I'm a big girl, I can take care of myself. When you're working this way, you can't get too wrapped up in emotional things, you just look at the numbers in front of you.

Korinna: It's interesting to me that you say 'it doesn't worry you, you just want the answer' because I think that some people would argue there is no definite answer. In that in case do you think astrology can provide definitive answers?

Participant A: Yes and no, it depends on the question. Having read and watched a lot of online conversations between astrologers and sceptics, I think it depends very much on the questions that you're asking because I can argue that the sky isn't blue and come up with a different answer. Are there definitive answers in anything? Look at the mess we're in with

Coronavirus. What have the scientist done? They're the ones with all the degrees and everything and they supposed to be all this, and we're all screwed up here.

Korinna: So potentially, there is no definitive answer in anything...

Participant A: Yeah...

Korinna: Do you think astrology could be a natural law such as gravity?

Participant A: No. We use it in ephemeris, the position of stars. I think a lot of astrologers do the field no favours in that they are guilty of cherry picking and confirmation bias and whatever else you want to throw at them. You know, when you go to an astrology conference, they're clearly not being scientific at all, but they are using methods that are very frowned upon in the scientific community. But it makes great entertainment, right? And when are talking to clients about a difficult transit or a difficult time, we're using counselling skills to help them and before the virus hit, one of the things that astrology was criticised about was that we didn't see it coming. Well a lot of us did but when we talked about it, about 2020, we were very hesitant to tell anybody things were going to be really bad in 2020 because what good does it do? That's always my argument, were supposed to be lifting people up, not making them worry unnecessarily, in fact, when I think about some of the things I said in 2019, I'm glad I didn't. I'm glad I let people live a happy life, I'm glad I let them enjoy life while they had it, rather than making them worry for 6-months unnecessarily about how bad 2020 was going to be.

Korinna: given what you've just said, do you think there is some kind of benefit in being able to see the entertainment side of astrology? You know you say you're at these conferences and it's just fun?

Participant A: Yeah I think there is real value in having a passion and watching yourself get better. I'm not the same astrologer that I was 12 years ago. I'm different and I've become more specialised and I've found my own niche and you know that I think meeting different people in the field and you are constantly seeing yourself on that trajectory of getting better. So I do think there is a good part of being an astrologer that's from the entertainment side of things.

Korinna: So things like sun sign columns or you see these social media pages now where it's memes about different sun signs...

Participant A: I love a good meme!

Korinna: You like it?! Do you think it hinders at all your work or the work of scientific astrologers?

Participant A: I call it light relief; I happen to be very good at them. I think there is a double joke in them, there's one for astrologers but non-astrologers can kind of get it too. It's a teaching tool as well. I've seen bad ones, the ones that based on sun sign aren't too funny unless… well.. they're just not that good. But I like the double joke ones. I think there is art to doing them. I feel two ways about sun signs, a lot of people come to astrology because they know their sun sign, that's very true, but there are lot of people like me who was completely put off because they couldn't relate to their sun sign. But I think there's an art to

sun signs, it takes a lot of work. I made myself do a daily sun sign column. All 12 signs for 3 months, never missing a day. Just to say that I've done it (without any pay) just to say that I did it and I do think that it is like an exercise. It's like I play the trumpet, it's like doing the scales. I don't like doing them, but I appreciate them. I can see myself getting better and I learn certain skills. I spent 3-hours procrastinating on doing them, I spent hours on Facebook or whatever before I actually did any writing, it took me 20 minutes to do them, but I hated it and I had to be honest with myself, I'm wasting my life. I'm writing for 20 minutes but I waste 3 hours procrastinating on it...

Korinna: Why do you think you were drawn to, for lack of a better word, a 'deeper' understanding of astrology?

Participant A: I guess it goes back to what my friend was saying about me having the moon in Leo. What does that mean? Who else has moon in Leo? Comparing myself to them. What makes people who have moon in Leo different to each other? So my sun and moon are a mutual reception. I was born at night, so the moon is stronger for me. I relate so much more strongly to my moon. I guess it was things like that. But I wanted to learn techniques, so I did the faculty course. It took me 18 years because I was complaining about it the whole way then I'd stop, then I'd start so yeah, that's what it was. I was always trying to find a way out. Is astrology real? Is it something that's valid? It kind of comes back to what you're asking me about the question that you're asking. Astrology certainly is real because it has lasted so many thousands of years and so it comes down to technique. What techniques are better than others? Even saying all of this there were eight world-class astrologers on the ISAR (International Society for Astrological Research) panel in the states, every single one of them predicted a Hillary Clinton win. Are they wrong? Hillary Clinton lost by electoral college votes, so she did win.

Korinna: So do you think science makes astrology more valid? Because you're saying astrology is real, but if predictions and models can't predict real world outcomes, does it make astrology less valid? Does science enable you to validate the reality of astrology?

Participant A: I think that astrologers can't deny that they use the science of astronomy because that's where we get our ephemeris from. So we can't say that it's not scientific. It is an interpretive art. As I've said, a lot of astrologers use very bad scientific techniques. I think you're kind of asking me: 'is astrology a science?' and I'm going to have to say 'no'.. can it be science? I'd say there's an awful lot of work to be done. Making something a science and putting it under an examination table and you're picking it apart, finding it does it work, if it works, will it work? Then you're taking out a lot of the things I found enjoyable about astrology right out of it. I enjoy the interpretive stuff. I enjoy working with clients, I enjoy helping people but coming back to the question ' do children misbehave more at the new moon or the full moon?' that was a specific question, I guess my colleague really annoyed me when he said that because I'm just like 'you don't even know what you're talking about'. Which is my problem with sceptics too, you don't know, you're not an astrologer.

Korinna: It's almost like the sceptics are equally as ignorant, if not more ignorant than people who are just doing memes for fun because there's no context what they're doing…

Participant A: Yeah, I read this guys book 'Bounce' by Matthew Sayeed, and he had the 10,000 hour rule and he came to my school to speak. I read his book and I thought it was

great. One of the things he said was, he's a professional ping pong player, he went all the way to the Olympics. Do you know this book, or this man?

Korinna: No, I don't.

Participant A: Well we're all sitting there, listening to him. I was really intrigued by what he had to say. Inexplicably, he threw in astrology and he basically said astrology is rubbish. Everyone turned around and looked at me because as I said, the kids don't know or the parents, but my colleagues do. They really wanted to know how I was going to take this. They were all kinda like 'hahah how does it feel to be wrong' and I was like 'hold on' you're a professional ping pong player and you're talking about 10,000 hours rule. I had more than 10,000 hours of practicing astrology and he also said about how professionals cant slow down and explain how they do what they do because it becomes so much a habit, their hand-eye coordination become so fine tune and that's kind of the way it is with sun sign columns. I can't guess a sun sign but I can probably have a go at other things. So I had to tell him that as a non-ping pong player I have no right to say that ping pong isn't a sport let alone a sport for a man which is what I said to him and so that shut everybody up for a while. As an astrologer we're always viewed as being kind of lunatics and like we're not there. I've always been aware of that, and that's very annoying. People always ask 'I don't really believe that' and I always say, 'well I didn't ask you to believe in it', I practice it every single day, I don't really believe in it either.

Korinna: Do the sceptics push you to want to do your testing more or show the validity of astrology more?

Participant A: They want to look at my stuff to disprove what I do. They want to look at my methodology. Like Geoffrey Dean is currently doing at the moment. Trying to find the chink in the way I've done things. And there is, there are a couple of things I didn't do right and I need to go back and get them right. Like I said, I might have just gotten lucky and need to have more data but that's the thing about doing stats, you always have got to do more. I'm looking at my data and I'm thinking now it's getting kind of old. Now it's vintage because the last data I have is 2014. I got to get with it.

Korinna: Do you have plans to collect more data?

Participant A: I'm not in the position anymore to collect data. I just happened to be in the right position to do that. In fact, I really wish I had this when I was doing the MA. I think I took the MA a little too early, there are a lot of personal reasons that I wanted to do the MA but I wish I waited a little bit so that I had this study, it would have kept me focused on it.

Korinna: Motivation?

Participant A: Yeah. When I did my MA… I was looking at evil and the history and the Christians

Korinna: Oh, so you didn't really do anything scientific?

Participant A: No. Is it a sin to be an astrologer was the question. I was put off by stats at university, so I didn't want to. I'm a petristep (?) doing something similar. I guess maybe that influenced me a little bit too.

Korinna: It's a huge project you we're doing as well and the MA obviously has time constraints so maybe it has to be saved for phd or something in the future. Back to one thing you said earlier. You said 'if you were trying to get at my question, you think you'd answer that astrology is not a science' so given what we've spoken about, if it's not a science, what do you think astrology is?

Participant A: I think it's an art.

Korinna: An art… and I saw on your website 'although astrologers speak the same language, they all have different accents' ...

Participant A: A language art then *laughs*

Korinna: I liked that quote, because it makes me wonder, is there always some type of subjectivity to astrology?

Participant A: Yes, there has to be. Look at the difference between the British accent and the American accent. Not only do we use our vowels differently, but we have different words as well for the same thing. For example, crisp and chips. When I go back to the states, I get them wrong all the time because I'm so used to asking for chips and I don't mean crisp, I mean chips. I get caught out. I've also been to India a lot and I know across India there are astrologers that have the same problems that we do. Which house system are we going to use? Look at all the things that we have going on. Tropical versus sidereal, psychological versus traditional, Hellenistic, on and on and on and it just depends on whatever floats your boat at the moment, that's what you're going to focus on. People don't realise what a vast field astrology is, it's not just sun signs or funny memes. It's a vast array, it's a pallet, it's a huge thing where every sort of variation is possible.

Korinna: Exactly, and do you think the scientific methods can translate on to all the different types of astrology?

Participant A: Well, one thing at a time. This is where I'm saying we're never going to get a definitive answer. We can probably run tests on the Hellenistic point of view, but how are we going to do that? I guess you could, but it comes back to 'what is the question?' if someone gets a prediction wrong does that mean it invalidates whatever they were using? On the subject of prediction, when I was teaching, as a secondary school teacher, I taught history at one point, so I had 500 students on a rolling rota, so I made predictions every half term. So, I made 3,000 predictions. I can tell you that some of my predictions weren't correct. Does that stop them from making predictions? If the weatherman comes on and he says it's going to rain and it doesn't, does that mean that meteorology is invalidated? It doesn't.

Korinna: I have an opinion, and please correct me if you disagree with this. But I think in the world we live in that so much of what we believe is true is based on science to the point where anything other than science is almost disregarded. Part of my opinion is that scientifically-oriented astrologers are maybe using science to make astrology appear more valid. Do you agree or disagree with this?

Participant A: I agree, I've thought about this question a lot too and my motivation. I had a conversation with Garry Phillipson, when I was doing Jupiter, Saturn work. He said, when

you go down that route of trying to prove astrology, you're getting yourself in… it's not the right approach. I've always carried that with me. I must thank him for this, I haven't spoken to him for years. I must say that had a huge influence on me. I am not trying to prove astrology. However, I do want to show other astrologers that there are more scientific ways than feeding the sceptics, you know with confirmation bias and cherry picking. There are ways that you can show how astrology can be more precise. I think that's the wording I want to use 'more precise' and less of the confirmation bias, I think.

Korinna: Yes, Garry is my supervisor and he is brilliant. I'm not sure if you've had the chance to read his phd thesis yet? But he explores astrology and truth. And he discusses that there are different ways of interpreting astrology, so you can think of astrology-as-science, astrology-as-divination, astrology-as-other…

Participant A: Yeah I think I agree with that. I don't like to see- this is just my emotional reaction to seeing an astrologer putting up a few charts and saying 'and here, this is what this means' for example, someone did something on anorexia and mercury retrograde. You say mercury retrograde to me, that always a red flag to me. So, I say mercury retrograde, I can name two very well-known anorexics that didn't have mercury retrograde: Karen Carpenter and Lena Zavaroni (?). They had mercury direct. I just would like to see less of the cherry picking and more of a deeper exploration of astrology. But having said that, there is an entertainment value. I watch, I love Gordon Ramsey, I binge watch Gordon Ramsey. Does that make me a cook? I'm not a cook, I can manage Ramen noodles I suppose. Just because I watch Gordon Ramsey doesn't mean I'm a cook. I still love to watch him because I think he's knowledgeable, I like his confrontations, there are a lot of different reasons why astrology is interesting.

Korinna: So astrology as an art as you described it, and using the Gordon Ramsey example of you can watch him but it doesn't mean you're a cook. Does that mean anyone can do astrology?

Participant A: I think so...

Korinna: And it doesn't matter whether you're doing a really intricate dish or whether they're just making Ramen noodles, it is still astrology?

Participant A: I think it comes back to the question of the different pallets and facets of astrology. I think that someone who is engaged in the subject and wants to learn… At conferences and webinars or whatever we're doing these days, you have to be careful who you're aiming at. If you're doing an MA presentation, it's going to be different from doing a beginner, entry level. But I think even if you're doing the beginner stuff you can throw in a little bit of technique. Gordon Ramsey will give off advice about how to perfectly brown of a piece of meat or whatever he's doing. You can throw in a little bit. I think that's what I'm saying. I want to say that when you're watching a presentation, you want to see something that will lead to something else. A deeper understanding or an interest in deepening your understanding of astrology.

Korinna: Why do you think scientists are so determined to prove astrology 'wrong'?

Participant A: Well as I said, because astrologers feed them, they play right into sceptics' hands. That's why I'd like to see a bit more toughening up the edges a bit, without putting

beginner astrologers off. There's always something you throw in that is going to deepen the interest. They're angry because I suppose they see people like the late Great Johnathan Cainer making a million pounds because he changed newspapers. I guess they're mad about that because they're in laboratory on minimum wage or something. It's only the really highly interesting case studies that get published into a book that make a lot of money. Stephen Hawkins for example. He got everybody talking about black holes. The average person before Stephen Hawkins came along wouldn't have even been able to tell you what a black hole was. Stephen Hawkins does it, and now everyone knows what it is. They have an idea. Or they want to say they're read his book to show they're smart.

Korinna: From an astrology lens I'd say the Gauqelin experiments had the same type of reach. Do you think they helped or hindered astrology?

Participant A: Those need to be extended and updated because I think there are a few little flaws in the way he's done things. They did things that back 30 years ago they were okay. Now we know a little bit better. I think we need to have another look at his data. There was another one done about red hair, people with red hair tend to have mars in the first house. There's a couple of others. Those are really old studies, this is what I'm saying about my data becoming vintage as well, we need to keep up and keep extending. This is why I'm a little bit down on traditional astrology because I love history and it's all well and good, but science is always improving its technique. Back when the traditional astrologers in the 1600s, there weren't mobile phones so when I hear a traditional astrologer tell me that Uranus doesn't exist, I want to take their mobile phone away. They want to tell me Neptune doesn't exist; okay you go and get a root canal without anaesthesia. Pluto doesn't exist? Okay well I guess the atomic bomb doesn't exists right? Astrology should be constantly honing its technique in incorporating different things. Then it goes down a different rabbit hole. It comes back to the question of 'do we want to put astrology on the examination table?'

Korinna: I guess with more technique you're welcoming more scrutiny

Participant A: Yeah..

Korinna: And if you're saying astrology is an art then there will never be definitives... So the scrutiny could end up harming astrology? Do you think that is part of the challenge of marrying science and astrology?

Participant A: I don't think I quite marry them, in particular papers that I've written I have focused on one technique and one question and done it that way. But in lots of other stuff, I've taken on different things. Then we've got a lot of questions about ethics. Some people say that we shouldn't use celebrity birth data because it takes away the privacy of the person and I think that's nonsense because writing about a celebrity and saying he has moon in Leo and this is that.. it's not a consultation. That's what they're saying, you shouldn't consult, you shouldn't give away your clients. But that person isn't my client and that's not the way I would do the consultation...

Korinna: You're just presenting the facts of their charts.

Participant A: Yeah

Korinna: Okay, and just to wrap up a little bit, I wanted to know based on what we've spoken about, what is science to you, do you have your own definition?

Participant A: Well, science is something that is constantly being developed and I think that for every scientific question, there's probably an opposition to the answer that they concluded so I think that is something that is in common with astrology. Ask ten astrologers you may get ten different answers unless you're on the ISAR panel of predicting who's going to win the presidency. Is that okay, did I answer that?

Korinna: that's great everyone has their own answer and that's part of research. I believe there are different levels to science, I wondered whether because you started in psychology and behaviour, whether you'd view science in a slightly more different way than just quantifiable testing which for a lot of people, is there go to: science is a test that can be quantified.

Participant A: Astrologers don't have a good scientific question. It's not clear in their head about what they want to ask, not that there's anything wrong with that, like I said, there's entertainment, there is art. I'm sure a lot of artists don't have in their mind what they want to create, it just kind of comes out as they feel or as they're inspired or how they work. Science has a clear question. It's constantly improving. The technique and the methodology is there and you're testing something.

Korinna: Another question then, do you think it is the astrologer or the method is the most important?

Participant A: I'm going to say both. I have to sit on the fence on that one because this is something we have in common with science and scientists. It depends on the motivation. Someone trying to find a cure for a terrible disease because their mother died of that disease, they're more motivated than somebody who has no emotional connection.

Korinna: Perfect, thank you very much. I'm going to stop there because I think I've got all I need in terms of the interview questions. I'm sure from what I've asked you've got a better understanding now of my research and what I am looking at. I didn't share it fully beforehand but I am exploring the general broad areas: to what extent science can explain astrology, or whether the astrologer is part of astrology and whether astrology is a 'science' in itself

Participant A: Let me tell you this, I just spent two and a half years writing a report for adolescence like the solar fire interpreter reports, I've just done that but focusing on adolescences, transits of adolescence. A lot of work. Am I removed as an astrologer because of this report? I am going to say well, I've written a report but in the consultation, I've written in the introduction 'nothing replaces an astrological consultation' because if you have the mixing of the client and the astrologer, you have the emotional input, you have culture that comes into it. Where abouts in the world the person is from and how you respond to that person. So, all of that comes into it. I don't know if you can use that?

Korinna: That's great thank you

End of interview.

Participant B Interview

Korinna: I'll start with a broad first question, what inspired your research in terms of using science within astrology?

Participant B: Well I got into astrology, I was a science major at the time that I got interested in astrology. That was many years ago in 1967, I was a freshman at Rutgers University with a tentative major in geology. I took a couple of courses, I went through 3 semesters and during that time it was the 60's and I was playing in a rock and roll band and meeting a lot of people and astrology came up. I actually took the time, I had a girlfriend that was interested in it, and I took the time to look at it, calculated some charts, did secondary progressions and realised that this was not a joke. That this was a real thing. I became more and more interested in it, after 3 semesters at Rutgers, my band was getting too popular so I quit - I dropped out. I stayed out for 4 years playing rock and roll music and getting more and more into astrology. I never saw it as unscientific, I thought it was just misrepresented. During that time, that was the late 60's, early 70's. I connected with a Rutgers professor named Ken Negus who got me involved in the new york astrology scene where I got to hear Michele Gauquelin speak a few times, I actually met him. He came out to Rutgers a few times and we had lunch with him and so I was exposed to astrology as a serious scientific endeavour early on. I never thought of it - I came to think of astrology as a subject like psychology, that has a history, it has theory, it has research and it has a practice. As I see it, astrologers make a fundamental mistake by declaring astrology practice to equal to astrology. That's a serious mistake in my opinion. I mean, a practice is fine, there's nothing wrong with the practice, but it's not history, it's not theory, it's not research. So I've always seen astrology as a subject, a malign subject that had onus of it that certainly could be tested scientifically, Gauquelin did it - and other people have as well, but that's different than practice. So many people are practitioners of astrology, they don't see anything else. They're lost. They're lost in their work. there's nothing wrong with it, I think a lot of them are very very good and they offer to the public a valuable service. But if you're gonna label astrology as a practice then you're making a big mistake.

Korinna: Could you just clarify, what exactly is that mistake?

Participant B: To not acknowledge that astrology is bigger than just a practice.

Korinna: So in that case, the people who are entertainment astrologers and just generally practice, do you think in that regard they're hindering the subject?

Participant B: Well, yes. I do. I would put them in the same category as hypnotists, that you know use hypnosis which we can say might be a part of the field of psychology. It was there early on, Freud used it and so on. They do performances so there's a commercial side to it, I think astrology is misrepresented by a lot of unqualified people whether they're entertainers or practitioners.

Korinna: What do you say to those people who say that astrology is not a science, that it's maybe an art or that it's something else like a belief system?

Participant B: Well I would say that astrology is a practice and in that sense it's an art, it takes skill. To do astrology well, you can't just follow a cook book you to be interpretive.

Just like a good psychotherapist or a psychiatrist. These people are not going by the book, they use their insight, their cumulative knowledge, to solve these problems. In this sense astrology is a practice, it is certainly not any more of a science than psychotherapy is, or it's no more a science than the practice of medicine. Both of those subjects have a kind of dependency on science because they're subjects and there's a distinction between practice and research, and practice and theory.

Korinna: Why do you think subjects such as psychotherapy are accepted amongst the scientific community whereas astrology isn't?

Participant B: I think when you dig into the history of it. The big elephant in the room is religion. The issue of fate and free will is a perplexing one to a lot of people and astrology just makes it worse. Makes it more complicated for people. I think that's the main reason why astrology was kind of tossed aside during the renaissance. It was too hard to reconcile the alleged fatalism of astrology with the idea that you can just pray to god and be absolved of all your sins and solve your problems. It goes on today. You see a major sporting event or somebody winning an award and they thank god. There like 'god did it for them'. Astrologers meanwhile look at the chart and say 'this person has Jupiter at their mid-heaven no wonder they're winning. So, astrology is too much information for people that are working on these more religious ways of thinking.

Korinna: Do you think there's absolute truths within astrology, like when you're discussing fate and free will, do you think the chart brings about absolute truths?

Participant B: Yes. I think there's as much absolute truth in astrology in some aspects of astrology certainly, as there are in psychology or medicine. But because astrology is not a hard science, it's an evolving science, some of these truths change. One truth that seems to have been established very clearly is that the meanings associated with the planets have been consistent for at least 2500 years. That's pretty good! Have you seen Francois Gauquelin's book 'meanings of the planets'? She tested them, you know, mars has been mars for a long time. Nobody's arguing about that. The definitions become more nuanced over time as civilisation becomes more complex.

Korinna: When you say 'mars has always been mars' do you think there's a differentiation between astronomy as in the position of mars, and astrology the influence of mars?

Participant B: Well I think astronomy and astrology are two separate subjects. astronomy is only concerned with the positioning and the physical qualities, the physically measurable qualities. Astrologers are looking at something different. They need the position of course, but it's an observational kind of science, much like biology. I suppose. Suppose a biologist goes to a strange continent, and hides in the bushes and observes animals and over time observes them enough to make some predictions. Then other people come in and make concur with those observations and they build up a science that way. That's what astrology is like. It's more of an observational science than physics. It's not physics.

Korinna: When you say it's more of an observational science, in that case, do you think the outcomes can be determined depending on the person reading?

Participant B: To some extent, I think there are nuances. But in general, mars is mars. It has to do with a certain kind of approach. It can be defined on various scales. Whether it's

forceful, combative, competitive, the colour red, weapons, whatever. But there's a fundamental principle behind it. That's why a lot of astrologers have adopted Jung's idea of archetypes - they actually go back to Plato- that makes more sense. Now there's a whole subject called Semiotics. That deals with symbolism and that needs to be taken into account to because astrology works along those lines and people study this stuff. The power of a symbol. Now the correlation between the interpretation of a symbol and real life is what has to be tested in astrology and Gauquelin did that. He and his wife, and other people have as well. So there is some scientific evidence, measurable data of a statistical nature that shows correlations between what these planets mean as symbols and certain behaviours in human or certain circumstances.

Korinna: I just want to touch back on what you said about correlation - you say there are statistical ways to prove correlation. Do you think the statistical proof makes astrology more valid than say personal interpretation of the correlation?

Participant B: It's going to make it more valid to some people. If you're a practitioner and your embedded in that role of being a practitioner, and being a consultant and a counsellor, you don't give a shit what the science is. you know what you're doing, you're testing things out, you're learning how to work with people. But, if astrology is as I say it is, a subject, then there's another category called research and another category called theory. In those areas, you want to start building up evidence for these things which can help the practitioner down the road. I think on elf the problems that practitioners have is that they think astrology is already perfect and it doesn't need any research. When the researchers come around and they say 'you're just trying to get approval from the authorities' I think maybe that's true for some people. I've never seen it that way, I am a natural scientist. I was interested in science from the time I was a little kid, I came across astrology when I was about 18 and I've been told all my life that it was bullshit and I found that it wasn't.

Korinna: I think a lot of what some people say is that astrologers who are using science are just trying to retaliate, or be reactionary to critics in order to prove critics wrong.

Participant B: Maybe that's how they are, I don't think that way at all. I'm a natural scientist, I'm interested in astrology. Astrology turned out to be my profession, I liked it a lot and I got good at it. I made a full time living for about 30 years with a wife and kid, and then a divorce, and owned a house, and took vacations. I did that all on a salary I made myself from reading horoscopes. Not a lot of people can do that. Even now, I'm 72, I'm retired, and I still get requests all the time. Frankly I'm just tired. When you get to be 72 you get tired, you got to take a nap. But I've been there and done that, I know what that's about. I know what making a living out of astrology is and what it requires and how good you have to be, and what problems some up. That doesn't take away from the fact that I'm interested in science. I thought science for 12 years at the university of Massachusetts. I have a PhD in geoscience, specifically paleoclimatology but there was a big biology element. I have an all science background. I know what it is.

Korinna: Do you think your science background influences the way you approach astrology? For example, some people say they use some psychic abilities in order to help influence how they read the chart….

Participant B: I think when people say psychic what they really mean is intuition, and intuition is the capacity to put together thoughts without rationally thinking them through,

another thing that I've done all my life, I've been a musician. I still play, I play in a couple of bands not lately because of COVID but I'm a guitarist, I play guitar solos. Over the years, I've learned how to play certain scales, positions, licks, all that stuff but when I'm playing a guitar solo and I'm not being distracted by something and I'm able to be in the moment - I use my intuition and I do all sorts of things that I would never ordinarily do. But its coming out of my intuition so I don't call it psychic.

Korinna: So what is intuition then? Is that a necessary part of astrology?

Participant B: I think people use their intuition in astrology and they call it psychic, that's what I say. I think it's a matter of terminology. I think the word psychic is tossed around a little bit too loosely in my opinion.

Korinna: How important do you think intuition is in astrology?

Participant B: I think in the practice of astrology, very important because you're dealing with a lot of data that has to be synthesised. When you look at a chart, especially if you put in a lot of extra points, you have to be able to jump to conclusions rapidly rather than spending a whole day sorting through the data logically. That's why some people can't do it. I have a friend, a good friend who's a physicist. He could never do astrology because it would take him forever, he can't even believe what I do. Some people have a knack for it and this is another thing that pisses a lot of people off about astrology. Somebody who's a scientist has never had to deal with symbols goes into astrology, they can't do it. Especially if they come into it older, and then they get mad because other people can do it. It's a skillset. I think doing astrology is very hard. It's certainly as hard as learning to be a good musician. any instrument is complicated, you can get good enough to play in a band but there's no end, there's no limit. I look a some of the great musicians in history and these guys are incredible. How did they do it? One thing is they practiced for 10,000 hours. Right? Same thing with astrology, if you do horoscopes over and over again, I used to do 4 astrology readings a day, 5 or 6 days a week to make a living and you get good after a while. That's a lot of time.

Korinna: When you were talking about you have to sieve through lots of data and that's where your practice and intuition helped you over time, in theory do you think a sophisticated computer programme that can read this information, could do a better job than a human astrologer?

Participant B: Not at this point. I think that it's helpful, AI is helpful at this point but it's going to take a really good astrologer to programme a really good AI reading. They're working on it. They're doing it all the time. It's like driverless cars.

Korinna: So do you think the astrologer is an important part of astrology?

Participant B: Well I think that in a counselling situation yes, I think that people need to see another person. they need to have contact, even if it's just by phone. Voice contact, it's an important element of it. If you're doing just consultation, suppose you're selling data to a service or something like that, that's not so important, maybe a well written software programme for astrology can produce the data that you want and then you're done with it.

Korinna: I wanted to touch back on the role of science within astrology. You used the word before 'misrepresented' about astrology. Lets say for example, someone did scientific testing of astrology and the outcome did not favour astrology. Does that discredit astrology?

Participant B: There's a lot of bad studies. It would depend on the study. I recently finished a book called the astronomy in nature, I have a chapter on it that goes over scientific testing and astrology. I'll send it to you. It will answer this question. I think there have been some good studies in astrology but there's been a lot of bad ones too.

Korinna: It would be great to read that. There's obviously different types of astrology western astrology, psychological astrology, Vedic astrology, do you think any one is better than the other? does it matter that there are different branches and approaches?

Participant B: It doesn't but I think some are more complex than others. For example, take Hindu astrology which became known as Vedic astrology in the 80s. It comes out of a certain culture, where there is a strong caste system, there is a strong element of fatalism. So the astrology is largely geared around that, so it's going to be less nuanced than western astrology. In the west there's been a lot more interest in individuals free will and the use of astrology to gain psychological insights into stuff. In my opinion, I think western astrology is the most advanced form of astrology on the planet. Now I also spend a lot time studying the astrology of ancient Mexico. Which is very interesting, but it was squashed by the friars, the catholic priests. Whatever scraps were left, I tried to put together into some kind of system. It would be similar to Western astrology 2000 years ago.

Korinna: So, astrology is culturally determined?

Participant B: yeah. I mean I think astrology is an attempt to understand the effects of the cosmic environment of life on earth. I have a broader definition of astrology.

Korinna: I'd love to hear it.

Participant B: My definition of astrology, and I've written a couple of papers on it, one of them is in the current issue of the NCGR journal but its also online, it's called 'astrology as a technique for analysing self-organising systems'. But my definition is this: astrology is the study and application of mapping and graphic techniques in the analysis of self-organising systems'. Self-organising systems are things like the body, the mind, personality, a social group, a nation state, the stock market, a hurricane, the climate system over a million years - that's a slow moving self-organising system. But they're all self-organising systems. Astrology does not measure how big a tree is or what temperature the ocean is. It measures only things that have certain life like qualities where they cheat entropy. They're not wearing down, they take in information, you know food from the environment, and they sustain themselves, they're self-organising. In that self-organising, something emerges. That has not been handled by science very well. This is called system science. It's been around for about 100 years. It's still not well known but we need to know about it because it has to do with things like consciousness, understanding what consciousness is, understanding how the world works, that's real important for the global heating. For example, the microbiome in the human being or any other animal for that matter. Understanding how an organism like ourselves is really not just one kind of organisms. There's like a trillion micro-organisms that are working with us that are communicating with our brain and doing all sorts of things.

We're a self-organising system. So I'd say, astrology is the subject that measures and predicts. The behaviour of self-organising systems.

Korinna: How do you think astrology does that prediction?

Participant B: The primary technique is the time slice, it takes a picture, a snapshot, of the solar system environment at the time of a critical event. I would call in many cases, these might be 'bifurcation' events. Events that is splitting off like the baby is being born, or the ship is being launched, or a question is being asked.

Korinna: Can these self-organising systems veer away from the course of actions predicted for them by astrology?

Participant B: Sure. But you probably won't be able to go too far if you move away from the symbolism at the time. So suppose you're under a very strong mars transit and you have a choice of driving a car off a cliff or staying at home and maybe cooking some red food and hammering some meat, marinating something a red source. You can use what I call 'symbolic substitution'. Exercise your free will, that's a topic that I've written about briefly. I think it goes into the category of astrological remedies that needs to be more of a psychological nature than getting some crystals from a Vedic astrologer.

Korinna: And when you say time slice?

Participant B: That's a horoscope.

Korinna: Okay, do you think it's possible to produce a model or a causal mechanism to prove why the time slice would work and be correct?

Participant B: First of all, theoretically, the time slice is made at a crucial moment, but there's a larger field behind that, this is a meta technique in astrology, that's understanding phases, the cycles right so, if you look at the time slice you can then determine what a the phase relationships between the different planets. If you're looking at a larger entity like say the world, or a nation state, and you don't have a time slice available, you can just look at where all the planets are relative to each other. Astrology is a mapping technique. It's not limited to the time slice method but that's the most important one and it does give you important information about phases.

Korinna: One of many approaches one could take?

Participant B: There a not a lot of different approaches in astrology, not that many, there are graphic techniques which basically show where the planets are relative to each other in terms of simnotic cycles. Or in terms of other points in the sky. and then there's the actual time slice and then somewhere in between for example you can do a chart for the full moon or the new moon.

Korinna: Do you think that there are more techniques to be uncovered?

Participant B: Probably

Korinna: Would you welcome techniques that veer away from the traditional way people have done astrology?

Participant B: If they work, I don't care what they would look like. If things that were found were pretty consistent, and they work, people would adopt them and add them to their practice. There are some people that use Gauquelin's ideas. Most people don't because they don't understand it. It also hasn't been worked at in the astrological community, exactly what Gauquelin's findings mean. With exception to the fact that he found out the planets meaning what they traditionally mean. The position in the houses is a little more complicated.

Korinna: Do you think Gauquelin's work helped or hindered astrology?

Participant B: I think they helped, its something. I think that there's not enough. The problem with Gauquelin's work is that the sceptical community, the self-appointed pit bulls of science. The militant sceptics, you might want to call them, they made a mess of it. They made a big mess of it. When you get that kind of a problem, there's no type of follow up. Who wants to go into astrology and do research? It's complicated and difficult.

Korinna: Yeah and there's very few astrological researchers out there, I've found from doing this piece of work.

Participant B: Have you seen my work on Saturn and temperatures?

Korinna: No, I don't think I've read that particular one.

Participant B: I'll send that to you also, it was in correlation a few years ago.

Korinna: Thank you. I'm making my way through correlation and approaching the different authors in there, they will for the basis of a lot of my research. I've spoken to one person, and he said a downfall is that people who are trying to do solely astrological research have a problem with methods within their work. Do you think that's because many astrologers don't come from a scientific background?

Participant B: No, i just think that because when you're trying to nail down a self-organising system, you cant use regular nails. Sometimes, you can't use a hammer either. Let me give you a comparison. Origin of life. There's a lot of research on it. Nothing definitive. Lots of money is being thrown at it. Here's another one, consciousness. What do we know about it? A lot. But we don't really know what it is. There's another one, the Earth. You ever heard of the Gaia hypothesis? James Lovelock and Lynn Margulis?

Korinna: No

Participant B: Jim Lovelock came up with this idea that the earth is a self-organising system and that's why we have the atmosphere that we're breathing. If we took life away it would go away in like 1000 years. Temperature is stable. How does this happen? So it looks good, you look at all the data and it checks out. Yeah it has been stable for all of these millions of years but why? How do you test it? He goes about trying to test it. There's hardly any way that he can do that. Consequently, the subject is criticised left and right. So even a guy in the middle of the scientific community, studying a self-organising system finds himself at a loss. Astrology has that problem, it's not that astrologers don't know enough about statistics,

although I think that's true, it's not that the statistical methods are inappropriate. I think that you have to know which ones to use for which project. I think it's mostly you're just trying to test something that's really really hard to test.

Korinna: So with it being so different, astrology, consciousness, ect. can science fully account for astrology? or do we need something else too?

Participant B: I think that as system science develops and it is developing, we're going to need it. If we're going to deal with planet change, we're going to need more and more of this stuff. It's a point of view. It will become a stronger element in science. Most scientists are stuck on this reductionist, mechanistic, materialistic model of how to do science, basically physics. And they don't want to let go of it because it works really well. But it doesn't work really well on a self-organising system.

Korinna: Do you have your own definition of science? It seems like you view science slightly differently to the mainstream view

Participant B: My science is bigger. I studied history of science. It's what I got my masters in. Science is, as I see it, a methodology producing knowledge without recourse to supernatural explanations. So the first scientists were the early Greeks who said that everything in the world is made out of water. It's organising itself this way - no god's right. Then it gets a little more complicate, then you get Aristotle and he starts making observations and developing theories of how to explain things. So it has become very logical and rational and then you get to the renaissance, and you come up with this brilliant method where you take something out of nature, you take it out of nature and you bring it to your lab and you test only one thing at a time. Once you find out how it behaves, you come up with a mathematical formula that can structure that behaviour and allow you to make predictions. This is reductionist. You've reduced whatever you're studying to one little part, but it works so great, and for a lot of other sociological reasons like, it has a good friend it capitalism, it took off. There have been reactions to it, you had Goethe and Von Humbolt and Rudolf Steiner were all kind of scientific people that were reacting to it. So it's not that everybody went along but it has dominated and it does have institutional backing and that's what most people call science. But science to me is a methodology, it's not religion, and its not philosophy. You're looking for evidence. You're looking for ways of organising that evidence to make knowledge. Most importantly, this is knowledge that is democratic. If I come up with something and I say 'this is how it is' you can go out there and test it for yourself and see for yourself. A lot of people do that it becomes democratic knowledge.

Korinna: That's where I find there to be a little friction with science and astrology because on the one hand in astrology there is knowledge such as stating what a certain planetary position in a chart means about a person's characteristics, but then there is the other side of astrology which uses more interpretation and is relied on by astrological counselling. That is there side where I personally, struggle in understanding how science and this idea of absolute knowledge can be applicable

Participant B: There's knowledge in doing astrology as a practice. It's cumulative and i's based on tradition to some extent. But it's like playing an instrument, you learn to get good at it. But then astrology as a subject is another matter.

Korinna: Do you think it's important for astrology to always be quite clear on separating the two and having those distinctions?

Participant B: Yeah they do that in medicine, they do that in psychology. You have practitioners and then you have researchers.

Korinna: I think that approach makes the astrology and science question much clearer.

Participant B: I think if you don't do that you're stupid. Really. Its like the dumbest thing, and people having been saying this for a long time. Oh astrology is art, its a science, back and forth. It's a frigging subject!! Psychology is the same way. There are psychologists that are research psychologists. and then you have practitioners, therapists, you have educators that come up with theories and so on. The difference between astrology and those fields is money. We have no institutional support. We're very very poor. The amount of money that goes to astrology every decade is equivalent to the amount of money that goes to one science lab at a major university in a week. It's ridiculous.

Korinna: So the system is hindering astrology

Participant B: Well capitalism has voted for reductionist science as number one. And astrology has not been able to produce anything for a few hundred years. It was basically taken out in the 17th century and it never really got much further. It is getting a little further now, trying to regroup itself, but it is way behind. Astrology is like 300 years behind all the other subjects.

Korinna: Is that solely down to the lack of funding alone?

Participant B: Yeah. And astrology does have to bare some of the blame for it because if you associate astrology exclusively with practice, and then you get practitioners who are not scientific in orientations and they believe things like reincarnation and they believe things in psychic abilities and all this other stuff, this flies in the face of organised religion, you're not going to get any money. Nobody is going to give any money to that.

Korinna: Those ideas are much harder to quantify.

Participant B: You can't at all, any of the supernatural stuff, you can't. I think a lot of people in astrology as practitioners aren't doing anybody a favour by broadcasting their beliefs.

Korinna: To wrap up now, I just wanted to say that what you've given me is really a great insight and influence the way I write up my research, especially in regard to distinguishing the practice of astrology from the subject.

Participant B: I think that is probably a good way to go. I've been doing this a long time and it just seems like, if you cant see that you're not seeing the elephant in the room.

Korinna: Given everything we've spoken about then. Do you think that there is a space in astrology for the super natural elements, even if they can't be explained through science?

Participant B: No more than in psychology or medicine. If I think there is something like that, I think we have to look at it more in terms of intuition or placebo effect or something like that.

Korinna: Does intuition have a role in science?

Participant B: Don't you think a really good psychotherapist uses their intuition? Don't you think a really good diagnostician uses their intuition? There's a role for it.

Korinna: So my research question is 'to what extent can science account for astrology' - am I right in believing you think it can account for the entirety of the subject?

Participant B: Maybe not the entirety at this point but I think there already is some evidence. But I think that if some more research was done, a lot more would be found. Like, I say, astrology is 300 years behind. There has been no attempt to really research it. Astrology is where geology was in the 18th century.

Korinna: It's getting there then.

Participant B: It has to make this very clear separation between the practitioners and the subject itself. The practitioners have to be ready to give up some of this magical thinking that goes on.

[End of interview]

<u>Participant R Interview</u>

Korinna: To begin with, I wanted to comment on what you wrote in your recent article 'the evidence accumulates but the proof is never possible' I thought it is extremely relevant to everything that I am discussing on science and astrology, so I wanted to begin with that specific phrase 'you can never prove' why do you think astrology cannot be proven?

Participant R: Well I think it comes really from science and science can never be proven because it provides evidence, but in most cases, it will come up with a theory and that theory may not be correct or may not be complete. So, as I said in the article, we had the example of Kepler and his three laws and then that was refined by Newton on his laws of gravitation and then that was refined by Einstein. You have these stages of refinement, the same with Darwin. I'm saying that with astrology, the same ideas apply. The same concepts apply. I think if you can't prove science, it's difficult to expect that from astrology. You can validate, you can replicate, but that still doesn't prove.

Korinna: So, based on that do you think astrology is or isn't a natural science?

Participant R: I think the practice of astrology is more of an art. The astrology itself -within astrology - astrology can be scientific but we have to look at the practice of it. And the practice of it is not scientific and therefore, you might say it's not really a science. A bit like cooking, you'll get some cooks who are very precise and do the search and measure things and others who are much more spontaneous and go on their gut feeling sabot things. Would cooking be a science? I would say it can be. Would astrology be a science? In certain

contexts, yes, but I wouldn't describe it as a hard science like physics, chemistry, molecular biology.

Korinna: If it's not a science and it is an art then. Does that mean that there can be no objective answers in astrology?

Participant R: I'm not saying it is an art. I'm saying that the practice is an art. Most astrologers don't use science when they practice astrology. I'm trying to use it more in my own practice - using things that I actually have evidence for. I go back, if it is an art, is there anything objective? Yes. There is quite a lot of objective material in astrology and what I find is that some parts of astrology can be measured and they lend themselves to testing and some techniques, and if you don't know astrology, an example is horary, which is where you ask a question and then you look at the chart for the question. People can get different answers, and some people say its divination, some people say its intuition. It could be PSI, whatever it is, that isn't, I don't think that's testable and I don't think its scientific at this stage. It might one day be encompassed but other bits where if someone says, and I'm doing a test at the moment, if someone says 'oh supreme court judges in the USA, and there has been 114…someone wrote a book... am I digressing too much?

Korinna: No, no please go ahead

Participant R: Okay. There is a very good book by Alexander Boxer 'A scheme of Heaven' and in it he says that Libra is associated with the law, you know, scales of justice. He goes back to I think it's Manilius, who made claims about Libra and the law. And he said 'look, I've looked at 114 judges and there are fewer Libras, sun sign Libras, it's below average and Pisces comes up very high, so it poses a question.' So what I, and to cut a long story short, I reassessed it from the point of view of the whole chart and what I found was that Libra and Sagittarius, because Sagittarius seems to be more associated with judgement, moral issues where as Libra is more objective. So put the two together and then you get Jupiter and Libra, because Jupiter is the wheel of Sagittarius. You get Venus in Sagittarius. And then you look at the aspects between Jupiter and Venus so you look at these things and then you find that it is significant. I think that it's p is less than .009 something like that - it's probabilistically significant. I have to check it may be more. So I think that's just a situation. That's an objective bit of information because everybody can test it. Everybody knows people and they can get their birth details. And everybody knows anyone who studies astrology knows that Sagittarius and Libra are associated with the law. But funny enough, the old ruler of Jupiter was pieces and pieces comes up very high. But I'm testing using modern astrology, so cut a long story short, that's an example of somewhere that is objective. We are getting papers like that in correlation. I've got about seven tests, seven papers that I'm hoping to publish in the next issue. Most of them have objective information that can be verified like celebrities, when did they get together? What is the connections between their charts? And we're getting scientific numbers for the correlations.

Korinna: You mentioned that you're taking that from a modern perspective of astrology, do you think culture can then change the truth status of astrology?

Participant R: Yes, in lots of different ways. There's a very simple way that applies a lot to astrologers. In Roman times it looks to me like mars was considered the really great planet because it was the warrior, but in modern times it is a difficult planet. So we do have a cultural difference affecting our perception of astrology. But the astrology I practice doesn't

look at things being good or bad. I'm not seeing planets in that way - that's a slightly different way of looking at things. Maybe that's more relative.

Korinna: So in that case do you think then a computer programme would be more affective at reading astrological charts because it takes away that relativity?

Participant R: I understand… you're right there are advantages and disadvantages. The disadvantage of a computer programme is you can't discuss the chart. And the computer does not… sometimes if you walk in and you're looking depressed that will bias the astrology, but it will make the reading very relevant to say 'I see you've got a problem and …' whereas, a computer is very detached. So there are these factors that it can't do but, the computer is very precise and it can take account of multiple factors at the same time which is perhaps more powerful. The software I write tends to encompass the whole chart, like everything of the major things that are agreed in astrology. Whereas, if I did a reading for someone, I for example, if they have a moon - Pluto conjunction opposite Saturn, there's enough to discuss for most of the consultation. It really depends if someone says 'I just want to know about my chart' that's one thing. But if someone says 'I have problems' then you home in on what that is. Very different roles, and I think each has merits because I think computer software has introduced astrology to a lot of people that would not have been interested in it before - or could not afford it

Korinna: And do you think that human element of astrology and reading the chart enhances the astrological reading?

Participant R: Are you saying because they're there and they can offer sympathy or because you're there and they can judge about your lift from the visual cues and the emotional feeling that they get about you? Because these things you cannot get from a computer software at this stage. Not without inputting the bit.

Korinna: Exactly. And you're welcome to disagree with me but my opinion is that a lot of sceptics of astrology will say 'well depending on the astrologer you might get a different reading' I don't necessarily think that is a bad thing because the human input can enhance rather than detract from astrology….

Participant R: you're absolutely right. There is a consensus. Not 100%. But there is a consensus. You look at climate change and you look at the scientists, most might say it's happening. But ask people to predict what do we expect, there will be a lot of disagreement about what the model is, but astrologers do disagree. Especially over things like the house systems and there reasons for that. I think, a sceptic is… there may be a point that you get different results with different astrologers, but you will get pretty similar results over most things, but the difference… I'm trying to think about this because the differences… I need to think about it…. I think the thing is, if you went to two different psychotherapists you would get a different perspective and you look at how many different theories within the field of psychology. They say they use the same bathroom, but they don't share the same toothbrush. So they're all in this field, nobody's interested in each other's theories. A few people say 'oh that's great' but then a psychologist dies and then there's a new school. Then they say 'oh no that was completely wrong' so there is that flexibility that even in psychics and quantum mechanics there's a huge amount… look at string theory and how many different ideas there are. So I think it is true, there is variation but there is a consistency as well, and I think that's true of a lot of fields.

Korinna: Speaking of physics, in my mind I feel like quantum physics seems much more abstract than astrology, but it doesn't get the same type of scrutiny. Why do you think astrology gets the level of scrutiny that it receives from sceptics as opposed to other sciences?

Participant R: Really good question. I think some of it is deserved because we make claims that are not verified. Some of it is because people don't know the history. The history is that there was a huge amount of empirical work that went on at the very start in Babylonian times and we're talking thousands of years of study, and there is this wisdom of the crowd so the subject has evolved over the years, so there is this incredible background. But other people, think someone was just sat by the fire - seriously I've heard people say this - they looked up at the stars and they said 'oh that looks like a bull and therefore, you're like a bull' you know, that kind of stuff. So there is this… people don't know the history. There was a huge problem with religion. There has been. 'Only god knows the future' and this was for a lot of religions, both Muslim and Judaism and Christian religions, there is this question that 'are we [astrologers] taking over from them?' so there has been resistance. I think that was a problem. 300 years ago, when science started to get their act together. Because astrology was the top science really for thousands of years, it was where mathematics came from, then it split off, mathematics split off, then astronomy split off, leaving astrology as we know it today as the field. And education split, so it went to the arts (including divinity and religion) and the sciences. Astrology was neither one of the other. We've got our own scientific method which is not the same as the modern scientific method. And then a lot of people have been brought up with the idea that astrology is wrong. So they decide that it is, they've been trained that it is. And they don't actually even bother to look at the evidence. Any evidence they do they just assume there's a mistake. So there is a mindset that has developed against it in certain quarters.

Korinna: so do you think astrologers who are entertainers who might make internet memes or make outlandish claims with no evidence, do you think what they're doing is still astrology in their own subjective way or are they actually just detracting and adding fuel to the sceptics?

Participant R: Yes, I think it is. I think you're right, it is like the entertainment level. I think that's okay. Sometimes a magician is doing science, they're mixing chemicals and what's wrong with that? I suppose a scientist would say 'well that's not science' but it is another, it is a form of science that they do. They're doing an experiment, it may be an illusion and a certain psychological experiment, but others use chemistry experiments. I think that it is part of astrology because there is this fundamental basis of the correlation between planetary movements and life on earth. Even if they don't do it in a rigorous way that other astrologers might or a complete way, it has value. But in a lot of people's eyes, because it is more entertainment than accurate, people will use it to assume the whole filed is like that which is unfortunate.

Korinna: Would you prefer if the field as a whole moved into more scientific methods approach?

Participant R: I think a little bit more, yes. I don't ever want to destroy the art or the experience of a consultation - its fantastic. I don't want to destroy that, that's really what I've been brought up on. That's really what I did for 30 years. 39 years. So I've really been doing scientific side for just over 10 years and that's how I started, so I would like us to back up our

claims. I'd like more astrologers to look into it before they make a claim. Before they write a cookbook. Do you know what I mean by a cookbook?

Korinna: A recipe book?

Participant R: In this case, in astrology, they do a cook book which is like every planet is listed in every sign, in every house and in every aspect so you get this complete information, so you look it up and it will say, it will give you an example of something quite specific. And it isn't really like that in reality. So it would be nice if when we looked it up, instead of just saying 'this means….' something someone might say is 'Jupiter Venus is good for lawyers or judges' which is what I've found, is to say well 50% of judges had this feature, that would be useful to know. If you look at population, only 1% - how many people are judges? There's point 0% or even less. It's not very helpful when you're doing a consultation. So long as we quantify our claim, and we look into our claims, I think our subject would be stronger. That's my thought, I don't think in a consultation you sit there being scientific and start saying 30% of people do that, but I think when you write a book at you make a claim, you back it up. So I think that would be preferable. And you source it more. People say 'such and such feature in a chart means this' well where are they getting that from? I'd like to know who claimed that before? Because I want to know the source. And if it's really ancient and it goes back to Ptolemy, then I know what it's based on and that interests me. But if someone just made it up then I'm not so keen. I will question it.

Korinna: And that's when I suppose the sceptics come in. That's what they'll jump on. These unsubstantiated claims that are being made.

Participant R: Yes, well they will but most of them don't really get that far. They will look at the claim of a sun sign column like 'today is going to be good for Sagittarius' that is unsubstantiated because you don't really have enough information to go on. Except, very occasionally you can be right about a sign generally on the day, that can happen. So I agree with you, the unsubstantiated claim.

Korinna: What inspired you to make such complex computer programmes with something that is quite arguably an individual subject?

Participant R: It's a good point Korinna, because when you do a consultation you think its a unique experience - and it is but it is like a number combination. You will have something in common with someone else. You will not be the same, but you'll have a quality, you might be an extrovert and that other person has that - that's a very general term but there maybe something. What I found as I saw people in consultations the patterns started repeating. I knew that once you start repeating yourself like I'm seeing 'oh yes sun and Saturn together it comes out in this kind of way' and I modify it a little bit for each person because of other factors but the general thing is the repetition meant that it lent itself to software and that's really how I was pulled into it.

Korinna: Okay, I spoke to Alex earlier and she mentioned how she passes on her data for you to analyse statistically and one question I posed to her which I will ask you as well is: do you think it matters who interprets the statistics? Will it change the outcome?

Participant R: Well, yes. It really depends at what stage you're looking at the data. If I give you a very simple thing sometimes you get to the stage where it's like tossing coins and then

there's a p value and that's right or it's wrong. But if you go back a stage, well what do you pick? Well, Alex picked the moon phases, for her work but not everybody would look for that for a detention. They might well have looked for a combination of planets and that would be another line of approaching and it might even be a mixture of several things building up together. So that's where the flexibility comes in. What is the original claim? What are you looking for? That's flexible. Once you get your numbers then it's pretty fixed. There's a way to go that it right or wrong.

Korinna: Do you think there's a value in testing in testing things like Alex's detention and the moon, or mars and ginger hair or athletic ability. Do you think that adds value to the subject of astrology?

Participant R: Well, there's some experiments that are simply to prove astrology. I've never been a fan of those, I never felt it was necessary to prove it - we talked about it being impossible but I never felt that validation as being a goal, whereas sceptics have always liked to do tests where you blind match charts and if you can do that successfully that would be evidence. But, I'm more interested in studies that are actually useful, so Alex's study is lunar phase connecting with behaviour. This could be very interesting for all kind of things, planning, the police, how many people should be out at patrol on a full moon or a new moon. Hospitals - how many staff needed on a certain day? The planning, anticipating crisis which could be coinciding with the moon phase is incredibly useful function. So yes, and another one is a study I've been doing and I haven't published it yes it suicide, it is probably one of the biggest problems in the west, it's going up and we don't really know why and if we could get some handle on it, it could change - science is not progressing in that area, but astrology might be able to do something. A study we've got coming up in the next edition of correlation is compatibility. You think of how many people are going to websites, match dot com, tinder, those sorts of things. they're paying money, they're meeting people and then the trial and error. Whereas, if astrology was to help them in that task and the timing, in the type of person, it would be unbelievable value because one of the big things on this planet for people, a very primary function is not only survival which is suicide but also reproduction. So these are fundamental things, it's very nice to have a nice phone and talk on zoom which science is doing, astrology is not going to do that kind of thing. It's the quality of our lives that it can do. Just about every - most- of the studies I get involved in have phenomenal value. But the testing type of study, that's useful to give people confidence astrology will work but it doesn't excite me as much as the other side of it, of actually being of value.

Korinna: It's just proving it almost for the sake of it. Just because.

Participant R: Yes, it gives people respectability to earn kudos and I understand that point and trying to validate but I guess it's not my motivation. I feel in the process of discovering about these amazing things like compatibility, it does validate astrology, but it also really helps consultants and helps improve the quality of what we're doing.

Korinna: Do you think scientifically-oriented astrologers test on a reactionary basis or there's another reason why they're doing it?

Participant R: Do you mean is it a response to the sceptics?

Korinna: Yes

Participant R: Yes, I think it probably is. I mean some people are doing research because they like doing research and that may be. But you're right, if someone says 'astrology is rubbish and there is no experiment that validates it' well then that would stimulate people to do tests and to validate it. It definitely would. A lot of my interests was provoked by people, someone like Prof. Brian Cox what he was saying was that there was nothing to astrology. I thought well there is something and let me show you objectively. I was happy being a consultant and not really worrying about that side of it because even though the claims were unsubstantiated, I knew that the claims were working very well in the consultation and that was quite sufficient. But then I thought actually, it would be good, it would be a benefit to astrology if we could show people on wider scale that it works. That is true, but in that process, I started to become interested in things that would enhance the quality of what I do. I thin started, like a lot of people the idea of validating astrology was very important in the face of someone saying it's nonsense, but I feel the way I've looked at it, I don't see that as possible. Proof is not possible, validation yes but not proof.

Korinna: I find it interesting you just said 'your work enhances astrology' so you don't think science can replace it? It's more of an enhancement?

Participant R: It's a good point because there's got to be things in DNA, experiments in DNA there may be possible to tell people's personality, and that might compete with astrology. It's a very weird thing but astrology has never- astrology today, I can't answer it in history because there was some medical stuff would be questionable - but today the practice for most astrologers does not conflict with science in any way. We don't. It's an amazing thing that we're looking at the things that science is not looking at. It's almost like I don't think science is the right tool to look at some of these things, you know if you testing suicide, you could look at the chemical drugs that they've been taking, you could do sociological studies but it is quite hard to get solutions in a very scientific way to that.

Korinna: That's brilliant, and starting to wrap up now, given everything we've spoken about then- to what extent do you think science *can* account for astrology then?

Participant R: There's different ways of looking at that. If I was to say in a consultation how much is based on science, at the moment, most astrologers, most of what they say is not based on the scientific method. I'm talking perhaps 90-95% on the scientific method. If you're talking about the evolution of the subject through thousands of years which is like many anecdotal cases that develops a theory over people - people weed out of things that don't work. If you're talking about that type of science, then 90% of it. Probably is 10% that might be intuitive, or the astrologist is trying it out because they don't know if it works or not but 90% is. It's a different, older, scientific method and it's less rigorous and it's less objective but it is nevertheless incredibly valuable.

Korinna: Thank you, and that's a clear way to summarise. I'm drawing to the end of the interview now but before you leave could you add any comments about your personal motivations behind using science and astrology together?

Participant R: You've asked all the kid of questions that I would think of. I will just say, there are astrologers that think that research is damaging, and we have to wonder what their thoughts on it is. I think if you're an academic astrologer which you might become, because you're studying it. It is difficult in a collegial environment where you're meeting people from different faculties and it's sometimes easy to say 'look astrology, we know it's not true, it's

not valid but it's fascinating from history or a sociological point of view' and that's fine that they study it, but it's very convenient to make it a dead subject because that means that you can be part of the academic world.

Korinna: It's like they remove themselves from critique...

Participant R: Yes, it's like studying a dead language in a way. You're studying a dead topic. A topic that was once there. I think if you start out as an astrologer and you get more and more into the academic environment where you have to excuse yourself time and again, I think that really concerns me but it's difficult. It's a bit like one time being gay, you had to be in the closet, and even sometimes being anti-gay made you seem like you were okay or whatever it was. I think there is a danger of people denying astrology just for the convenience of being acceptable.

Korinna: I agree with you and an interesting point you made about people who become academic astrologers. [removed] so then an argument rises about how you should test astrology in the first place.

Participant R: I think the thing is - I know this is being recorded – [removed] there was a research conference and [removed] presented a paper and he cherry picked all his examples which was very obvious to everybody in the room. It was like, what astrology is trying to get away from is cherry picking because basically you can have a theory and then you pick out 5 celebrities that fit the theory and then your theory is fact. Which could be a qualitative analysis. My problem is that's been done a lot and we now need to turn around and say 'what happens if we take a larger population that's got a defined boundary, does it work for them as well?' because we can all pick examples that work so that's my - I think qualitative studies are very useful for finding things you would not see in a quantitative study but I think in furthering out field, first I think it's been done very thoroughly already over and over but it isn't actually providing solid information. That's my criticism.

Korinna: I understand if you want that off the record, we can take that off.

Participant R: [removed] there maybe a way I can speak about him without being too controversial. He knew that what he did was just amusing for a research conference, it was exactly what we'd all been talking about you don't do, [removed] went and did. Qualitative studies are fantastic, they're very useful.

Korinna: They just offer a different perspective.

Participant R: Yeah they do, they go in deeply and you can learn something very interesting about it. It's the same in social sciences.

Korinna: Okay, well I think I have everything I need from you.

Participant R: If you send me a copy I'll probably rewrite it all!

<u>Participant T Interview</u>

Korinna: I've read that you were concerned that there were discrepancies when it came to studying the ages. What brought about this concern for you?

Participant T: when I got my inspiration to start looking into the ages I discovered that the average astrologer, or the average writing by any astrologer, was confusing or it was contradictory. There was a lack of clarity. That inspired me to see if I could actually figure out the truth because everyone said - almost universally, that you could not tell when the Age of Aquarius arrived. By that time I was already an astrologer for 15 years and I thought that was an absurd proposition.

Korinna: Do you think then that there is one specific way of doing astrology, or one specific answer within astrology?

Participant T: No because already I am a Vedic astrologer, as well as a western astrologer, so that just puts that to bed straight away.

Korinna: In that case then, why do you think there is a specific start to the Age of Aquarius but not necessarily one specific type of astrology?

Participant T: Well because astrology is a field whereas the start of the Age of Aquarius is a date. They're two different concepts. It's no different to say the start of the age of Aquarius is the same as someone who doesn't know what time they're born and you've got to work out what their time is through rectification. That's got nothing to do with different strands of astrology. It's just a technique of finding the right time, or for ages the right date.

Korinna: Okay, that makes sense. When you were working out the correct start date for the age of Aquarius did you use computer models or did you do you work without the aid of computers?

Participant T: Computers were so basic back in 1987. I think I had a Blue Star software astrology programme, which was the only astrology software available in the world at the time. But the computer I was using was a Commodore 128 or a Commodore 64, we were talking basic stuff. So no, I did it all manually.

Korinna: What is your stance on the introduction of computers in astrology?

Participant T: They're fantastic!

Korinna: In theory then, do you think a computer programme could replace an astrologer?

Participant T: Interesting theory, I suppose it depends on how far AI makes headway. I would say that given the right input and the right information AI could do very well. I actually have seen a basic horoscopic analysis by a computer programme once about ten years ago that I thought was stunning. It was a piece of Apple software. I don't think any astrological reading can be 100% comprehensive so that would also apply to computers. But I think that the ability to be able to pick up so much data would be fairly impressive for software however, I often give my clients a computer printout of say their natal chart but the software can't synthesize, but what it does talk about, it talks about very accurately. So it may well be very good at describing you know 'this planet in this sign, or this sign in that aspect' but when it

comes to actually synthesising the chart, I think that's going to be quite hard for a computer to do but not necessarily impossible.

Korinna: When you talk about synthesising the chart, do you think that exclusively requires human involvement specifically?

Participant T: Well it depends on how far AI goes. I would think that AI could probably do a fair bit of synthesising or could make a very good attempt and maybe a human would actually have to add a little bit to it but I don't know. It's fairly impressive where computers and software are going.

Korinna: To stay on a similar topic, if you say human adds a little bit to it, what do you think it is that a human adds?

Participant T: Well it's hard to say but not everyone's the same. I'm slightly psychic, not very much, So I can be there doing something and I can kind of have little bit of an insight. Not intellectually, not rational and that will show me a lot. It will add to something. I haven't come across a psychic computer yet - but I'm waiting!

Korinna: Maybe we'll get there with AI! Do you think what we're talking about could potentially be intuition? Could that be what humans add?

Participant T: Intuition yes, I'm a great believer! Yes they could add a bit of intuition but my perspective is ultimately, no matter what computers may or may not do, they would always be complimentary with a human. To do astrology without computer software would just be painful. But if I had some software that did some very good analysis of people's transits and progressions and all sorts of exotic things, I would use that and then add to it, what I would call the human touch. I think the computer can cover the actual details better than a human.

Korinna: In that case, do you think it is possible to exist without the astrologer?

Participant T: To a certain point but not 100%.

Korinna: Okay, would I be right in saying all astrology is subjective depending on the human that was adding their touch to it?

Participant T: No, I think it is a combination of objective and subjective. There's two parts to it. It's a little bit like psychology and economics. They can do a lot with computers but at a certain point, humans seem to have to add something in there. It's not all just quantitative.

Korinna: Do you think that astrology is a natural law such as gravity?

Participant T: Yes, and astrology is probably sourced from the same area as gravity.

Korinna: Given what we've just discussed then do you think astrology is just a science, or it is something else as well?

Participant T: No, I think it's a science, I've even worked out when science will probably acknowledge astrology, or some simplified version of astrology. I think they'll crack it by the end of this century. I used to study modern physics and quantum theory and Einstein theory

of relativity at university. I read a lot of quantum physics and I can see where astrology comes from quantum physics. It won't be that much of a stretch to go from quantum physics to astrology. Because quantum physics basically explains all the rudiments of astrology anyway.

Korinna: could you go into that point in a bit more detail please?

Participant T: Oh you know like action and distance - the fact that two electrons that comes close together, then could end up on the other side of the universe, will absolutely respond exactly at the same time and without even the speed of light being an issue. So we know that everything is super connected. So we're really a superficial layer sitting on top of quantum physics, but its quantum physics that is running the show not our superficial layer. All the things that we consider discrete in our world do not respond in the same way at the quantum level such as time and distance and movement. All these things are more like a soup, they're all connected and therefore, it's kind of like how astrology works in connecting seemingly disparate entities. Like how when someone is born a planet is somewhere and you're here, at the quantum level its all connected. That's a whole field in itself, you really would have to devote your main energies to that level of trying to put quantum physics and astrology together. If someone had done a PhD in quantum physics they would probably have the skills to do it. But I doubt if I ever will!

Korinna: Do you think quantum physics and other aspects of science can be used to test astrology then?

Participant T: Yes I would think so.

Korinna: What is the best way to test the truth of astrology? Well, one, if you do think there are absolute truths, but two what you think the best way to test those are?

Participant T: I don't know off the top of my head but I think you have to really use some kind of quantifiable, fringe part of astrology to prove it, as you can't prove it at the core. You have to just look for some basic things. The trouble is, in trying to prove astrology you've got to really use archetypes, but archetypes in many ways defy being quantified because they're so wobbly and nebulous so you really got to test astrology not on the archetypes but on things which are concrete. Which are fringe things whether it's the colour of someone's hair or their height - something that you can quantify. Which is not at the core of astrology, it would have to be on that level to test astrology. You know like Michel Gauquilin's Mars experiments.

Korinna: Yep.

Participant T: It's got to be something that you can quantify that you can test but the thing that you can test I'm not quite clear about.

Korinna: And back to the Mars experiments, did they help or hinder astrology?

Participant T: More hindered than helped.

Korinna: What makes you say that?

Participant T: Because it really was absurd what it was proposing. It was proposing that someone born with their Mars just above the ascendant became famous sports people based on this attribute. The fact is that for every 100,000 people you find with mars right above their horizon, they're not going to be a famous sports person. In other words, they've picked up something so subtle, it really doesn't help anyone. Even with astrologers. I've had huge arguments, like 'oh there's a sweet spot for mars' but I say 'how many people do you think have got mars in that sweet spot that aren't professional sports people'. If I saw that in a chart, the last thing I'd ever say to someone 'ah you could be a professional sports person' that's just absurd.

Korinna: There are so many other variable factors that play into that.

Participant T: That's right.

Korinna: Let's say these tests like the Mars ones, but there's also tests like lunar cycles and behaviour.

Participant T: ah yes, I've read a bit of that!

Korinna: And in the lunar cycles tests, there was some correlation between lunar phases and behaviour. When you see tests such as these, let's say one which shows a correlation and in theory supports astrology, but then another where there's no correlation and in theory does not support astrology's claims. Do you think that either result regardless of the outcome either way does not help or hinder astrology?

Participant T: If you want me to add something, I've just done some research trying to work out between president Trump and Joe Biden, whether you can tell who is going to win the election by the position of the moon. I went back and researched all of the presidents and all of the candidates since 1960 and found that 73% (which is quite a high percent) of all the presidential candidates that had their moon in either the 4th house to their ascendant, the 4th house to their sun or the 4th house to their moon, became president. So that's quite significant. I've really got to extend it because everyone is freaking out now because if you use this, it comes up with an unpopular choice, so I what I have to do is go back further and see because if I went back to say the beginning of the 1900's whether that would also work. I only started from President Kennedy up but I thought to myself still, that's quite a high percentage by chance it should have been 25% but to have 75%, when you go to the losing candidates they don't have this at all, it doesn't show up anything in their respective horoscopes. So there are ways of testing things, yes.

Korinna: Arguably then these tests help support the claim that astrology is 'true'?

Participant T: Well no because the problem with the argument is that it becomes a religious issue. The reason why many people and academics don't believe in astrology is not because of logic it's because it's a religious issue. In the religion of science astrology is fraudulent, and when you go into religion it is based on belief and not on rationality. I do think that it will break through, because there is a general revolution in society anyway and it will eventually hit academia and I actually think just from my research that it will occur around the last couple of decades of this century It will kind of be accepted in academia but for me, I'm not interested whether academia and scientists believe in astrology or not. It doesn't have any meaning to me.

Korinna: I've found that many people seem to do their tests in retaliation to sceptics...

Participant T: No, its like if you get a Muslim and a Christian together, there is no way the Muslim is going to turn the Christian into a Muslim and vice versa. It's like if came across someone who doesn't believe in astrology, there's no way in a million years I'm going to be able to convince them.

Korinna: Even with a test that shows strong correlation?

Participant T: It doesn't matter because it doesn't matter, because it's the same as religion. If you believe what you're told, what's it called… cognitive dissonance?

Korinna: Yep

Participant T: Cognitive dissonance rules with any proof of astrology. People will not see… you've got to realise that as a society we're not that evolved yet. We're still mainly medieval. The modernity side is probably only 33% we're still 2/3 medieval so if someone feels they don't like something, you're going to have to do a hell of a lot of rationality to overcome that.

Korinna: In that case, do you think astrology bares similarities with religion?

Participant T: No because there's nothing in astrology that is based on a belief system. What I understand of astrology is what I've learned and my experience and observation. From the word go, when I read my very first astrology book, very quickly I learned that you couldn't trust anything written about astrology. In other words, if someone said that 'mars in blablabla would do blablabla' I'd never automatically believe them but I would test it. So it's the same thing, astrology is not based on a belief. But a lot of astrologers have astrological beliefs that aren't based on rationality. Like when it comes to astrological houses, it's incredible. An astrologer won't test houses, they think it's a belief system that you can just do 'this house and that house' and it's all going to work equally well. But I've tested it, I've gone and worked out 'if the house is here you should be able to find evidence' but astrologers don't like evidence, they prefer belief. So there is a strong religious element within astrology.

Korinna: What do you think is the reason that some astrologers prefer belief over evidence?

Participant T: Because that's the paradigm of our society and it has got thousands of years of momentum to choose belief over evidence. The modern world is quite a new thing. It's main impact is in technology but it's impact into society and understanding things is still quite low. We're still quite medieval, people don't understand that the world is more medieval than modern and medieval is not into rationality.

Korinna: Do you think astrologers such as those who practice for entertainment or the rise of astrology on social media, do you think this type of astrology tarnishes the subject, or does it even matter?

Participant T: Well you know the fact is that you've got every kind of astrology and astrologer from one end of the spectrum to the other. It has its advantages and disadvantages and yes I'm sure a lot of the astrology which people say is astrology is almost like charlatan

astrology but there's not much you can do about it. People pick their own poison. It's a two way thing, the people who get attracted to it are going to be attracted to nonsense anyway.

Korinna: and these people practicing like that, is that still astrology or is it not?

Participant T: It depends on whether their belief happens to coincide with reality or not. People can believe in a whole realm of things and some of those things that they believe in will be nonsense but some of those things can be correct. That's just the way it is. It's a mixture.

Korinna: Do you think there are absolute truths?

Participant T: Yes. There is, absolutely. You mean with a capital T? Yes there is. And especially in astrology because you can't make it work otherwise.

Korinna: And do you think there is more value in objective astrology than in subjective?

Participant T: Well, I think you've got to be objective. Even though astrology is very ephemeral it still doesn't mean you can't apply logic and rationality and scientific methods to your understanding of it. For some reason I've always been more attracted to that way, of being objective in analysing and rationalising and looking for proof. Most of the proof that I find would not be accepted academically because it's a proof I perceive rather than documented with case studies.

Korinna: Going back to what you said earlier about psychic abilities or intuition within your work. Would it matter then if someone dismissed all of your scientific work because there are parts of it that is based on intuition?

Participant T: Even with intuition - intuition usually tells you something but then you can go and be objective about it and prove it. Intuition normally plays more of a role when I'm doing horoscopic astrology with a person in front of me. Whereas, when I'm doing research the intuition is not such a relevant thing. The intuition and the psychic side exists more in person to person. What effect has my intuition had in my research? I'd have to say my initial epiphany when it came to my research in astrological ages was, I had the intuition that the astrological ages were structured in a certain unique way, but then I went out to see if that was the case. I was quite willing to ignore my intuition if research did not support it- but my intuition was quite right. It told me where to go but when I go there I'm not dependent on intuition. I'm looking for proof.

Korinna: Thank you for that. And now I want to bring the interview back to look more at science. To what extend do you think science can account for astrology?

Participant T: In a number of ways. If you've seen any of those David Cochrane videos he can show how mathematically, the zodiac is naturally forming including many of its sophisticated relationships. That's a very classic example. To be able to prove that the whole construction of the zodiac and a lot of the relationships in there is a naturally occurring thing without having to jump through hoops is like…well it does not prove astrology, but it's strong circumstantial evidence.

Korinna: Do you think qualitative testing methods are more suited to astrology than quantitative methods?

Participant T: Yes I do, however, my method of predicting the next president of the USA, is actually a quantifiable method. I'm not using qualitative assessment at all. It's just based on where the moon was in three structures so yes, it's a combination. I think that what I have found missing in most scientific and academic papers on astrology are archetypes. The archetypes are as important as the physical or the mathematical astrology because astrology is really weird - it's got this hugely strong mathematical basis but then it has got the complete opposite nebulous archetypes. The archetypes are not astrology without the physics and the physics isn't astrology without the archetypes. They're really got to include both parts. You've got to do it with some sort of scientific proof, when you get to the archetypes. You've really got to look for something that manifests physically in a way so you can grab hold of it. It's a difficult one.

Korinna: So it's kind of like two overlapping structures within?

Participant T: That's right. And most of the research I've seen, and I've read lots of research by people trying to prove astrology. But it never really gets to the core of astrology. It's always a fringe peripheral thing.

Korinna: What is the core of astrology?

Participant T: Well the core of astrology is basically everything everyone does every day has an astrological cause or consequence. It's like we're in some sort of soup and somehow everything is interconnected. But you can't really… how you can actually prove that is a different matter. The core of astrology is a relationship between things on one echelon of reality, like us living on the world and things floating around in space or part of space on an astronomical level. There is some sort of correlation - that is the core of astrology. But if for some reason, someone is born when the moon is there, it's going to correlate to things in their life. It's sort of funny, I woke up yesterday feeling bad, like an upset stomach. The moon had just gone into 1 degree Sagittarius and I'm a Sagittarius and I find, because I don't have good health, whenever the moon is in Sagittarius, or Taurus or my ascendent sign or the 6th house, I can wake up and 'ugh' there it is. That is the core of astrology, it's not a separate thing outside, it is an integral part of everything. My daughter's car breaks down and I look at the moon and there it will be in her 3rd house of driving… so the core of astrology, seems to be some sort of interrelationship between everything all over the place, just like quantum physics.

Korinna: Like 'as above so below'

Participant T: That's right, not that anything above causes anything below, just that the connection via quantum physics is caused by interconnectedness. I was watching something on quantum physics and it was talking about spooky accident in the distance and these scientists were saying the only way to explain this is to say that absolutely everything is fated. What do you think of that? That's astrology! If things are fated then you can tell what's going to happen if you've got a system to do it. And that's not the first video either. I've been watching scientists, another one about six months ago, they were saying the same thing. They were saying that really, from a scientific point, no one has got free will. Even your free will is fated.

Korinna: Touching upon that then, if everything is fated and there is no free will at all, do you think there is a choice or are astrological readings concrete?

Participant T: They're kind of putting it as conjecture, and I'm listening to it and I'm not accepting or rejecting it. I'm listening to what they're saying and even when you're sitting there saying 'should I do this or should I do that' and then you do this, you think it's your free will but the science is saying, no it was fated that you made that decision and went through that process. It's a very good argument to say that absolutely everything is fated but I wouldn't jump onto that bandwagon. I think that there is probably choice. Only because it's extreme and I'm a person on the middle path that most likely it's a combination of fate and free will. But when you do exercise free will the fate says you're going to go down either there or there or there, you may use your free will to pick those 3 things but the fate was already limited to one of a few options. There's fate but fate is saying you can do that or that and the free will can come and decide. But I'm always surprised because I do charts for some people with some calamity coming up for them and I'll explain it clearly and they'll just go right ahead and do it and suffer anyway. This happens time and time again. Even though I'll tell them, this is what will happen, they'll still do it.

Korinna: Well arguably then is that not their fate anyway.. that's why it was in their chart.

Participant T: That's a good one! I have been thinking about that too just for that same thing. Even when I come up and tell someone 'this is their fate if they go and do this' their fate seems to be their fate. At the same time I don't believe its 100% fate, I think there is free will and fate and they interplay. People don't have the free will to do anything that they're fated to have confines to their decision. Which particular decision they might make I think is free will. I couldn't prove it and I wouldn't. It is from observation of everything else you kind of notice it. It's usually the middle path that rules – rarely the extremes.

Korinna: It's like choice limited within one room. We might be on the whole world but you've only got one room you're in at any given time that we can make a choice within.

Participant T: That's right, that's why I watch YouTube videos about scientists on quantum physics. I actually do think of all the things that really interfaces with astrology, it is quantum physics.

Korinna: Like you mentioned David Cochrane's lectures. I think he discussed the sacred geometry.

Participant T: It's brilliant

Korinna: Yeah and it surprises me when people dispute that type of evidence. If anything I find the concept of quantum physics much more abstract than the concept of astrology yet much more widely accepted

Participant T: Well it's very early days for quantum physics, they're still in the cave man days. I find it normal that people will reject astrology because most people's brain spaces are mostly medieval. It's a battle of the brains. In other words, we have an animal brain and a human brain. As humans, we spend our times between the two. The animal brain likes religion because it just wants to be able to do a knee jerk response to everything. So it's not

confusing to me that most people manifest mainly medievalism in their modern life. You've just got to turn on the news to see it. Look in England, how many cases of COVID did they say you had the other day?

Korinna: Honestly I don't keep up with COVID news anymore

Participant T: No, in fact it was about 20,000. Well if there were 20 people with COVID tomorrow in Australia, everyone is going to freak out. It's a different world. So even COVID proves how medieval the world mostly is. Because Australia is near Asia, we follow the Asia approach where you just don't have it. You just knock it out. The European approach is that you pretend it doesn't exist and you just go ahead and do whatever you like. But that's medievalism. If you look at the Spanish flu, they did the same thing back then. The world is still as medieval as it was 100 years ago.

Korinna: Ah yes, I saw the article you written the other day on Spanish Flu and Covid and the similarities. Do you think astrology is linked to the human brain rather than the animal brain or the medieval brain?

Participant T: I think it does link to the human brain. You've got to really have your brain cells working properly. The medieval brain dominates in the field of astrology, there's no doubt about it. There is no reason why everyone thinks there's a million house systems. That is medievalism - which is absolute nonsense. Astrology really requires clarity, you have to have clarity. Clarity doesn't come by following beliefs. It's not necessary quantifiable but it's clarity, being able to observe and see in the way without trying to put some sort of belief system on. I won't go into it but I've had astrologers tell me the most stupidest things you know, trying to explain why what they're doing which is wrong, and humans will do incredibly complex dances to explain why what they're doing is right when it is patently wrong. Anthropologists have picked that up, they said that it's a trait of humans to construct this artificial reality which is like religions and politics. Humans can just construct artificial realities going onto infinity almost that is not based on fact.

Korinna: that's like an internal defence mechanism

Participant T: It can be but you have to look if you go back to medieval times. They had an internal defence, they said 'oh look the plague has come, let's get all the Jews and kill them' that's what they did, it's the same thing. But I don't need an internal defence system, I've got a much better one. I quite like Reality with a capital R. I had no problem if someone can logically and rationally show if something I've said or done is wrong, I'm quite happy. It's not like I want something that I believe or portray to be right if it is wrong. And there will be some things no doubt about it, you can't be 100% right, you can't have 100% clarity at all.

Korinna: And is that why you welcome using science in your astrology? Because if you don't have any problem with being wrong then using a scientific approach to astrology helps you find answers?

Participant T: It's not my path to be a scientific or academic astrologer, but I find any level of astrology that provides some clarity or insight is valuable.

Korinna: Brilliant, and to finalise now, based on everything we've been thinking about. Do you have a definition of astrology?

Participant T: I should have! It just basic, that any astronomical event, being real or imagined, has the potential of having a correlation to our life and activity on the surface of this earth. And I use the word fiction too. In other words, any astronomical event that's real or fiction has the potential to have a correlation here. I do use one of those entities which probably doesn't exist out there in space but it's brilliant. I use a version of the Dark Moon Lilith, because technically this thing that doesn't exist was conjunct my ascendant when I was born, which is why I got into it, I have done so many readings with people and been able to explain so clearly their situation and their solutions on this. But, the chances are, it doesn't exist. But it has an effect. So there is this body with an imagined starting position but then an imagined motion but it seems to have a result. That made me think a bit, that it's not necessary for something to be a body like a Jupiter or a Mars to create astrology. But anyway, it's strange, you have to see the humour of it.

Korinna: Considering you didn't have one that's a great definition!

Participant T: Anything on an astronomical level that's real or imagined or fantasy have the ability to have an astrological correlation to us in our lives…. and in the world, because the world follows it too. That's why I can say how long medievalism is going to last. Everyone thinks we're on the threshold but we've got hundreds and hundreds of years, even thousands of years to get out of medievalism. We're still coming out of the caves. We just don't realise it as a society. Which we can see...

Korinna: Yes I can see that, especially with current global events as we have discussed, we often naturally revert into a state of irrationality when anything comes our way.

Participant T: That's the interesting thing, it's a scientific fact that under stress, your upper brain shuts down and you go back to your animal brain. Whatever it is, so for some people, just the thought of someone in the opposite political party winning will stress them so much that they'll shut down their upper brain. But it could be anything, just someone telling you something that's different like 'I believe in astrology' their brains will shut down because for whatever reason, they revert back to that knee jerk reaction and emotional responses.

Korinna: So you're saying we've got a long way to go before we can stay on the logic side of things even when presented with something we don't agree with.

Participant T: Exactly. I wrote a whole thing on that called "Battle of the Brains" because it's actually particularly strong this century. It will get even stronger, it will peak in 2029 and the next 60 years you can sort of see it, this battle of the brains that's happening now. You get people that want to go more to the thinking rational side, then the people that want to go more to the animal reactive side.

Korinna: Yeah, that's the interesting part about studying humans.

Participant T: What area of astrology do you study?

Korinna: I'm studying it very broadly because I am on the MA in Cultural Astronomy and Astrology which provides a large overview. I do want to say I am not an astrologer, I study astrology. But the area of interest that I've gone into and enjoyed most on the course is

psyche, a lot of Jung and theosophy is really interesting to me. I've always been more into philosophy.

Participant T: That's good, you don't have to be an astrologer to appreciate astrology. It takes a hell of a lot. Even with me, I only ever did it part time. I was doing readings probably 15 years after I learnt astrology, but it really wasn't until the 30 year mark that I felt I had some sort of competence. The trouble is that you don't know you don't have competence until you have it. So all those poor people I talked to in the first 30 years… I'm glad I wasn't them.

Korinna: It is incredible complex as a subject to grasp, it takes time

Participant T: And psyche, you mean where you see the same type of person in another person?

Korinna: Yes more like 'the self' and also archetypes come into that, even collective unconsciousness

Participant T: We're into psyche as you are into astrology - as an observer. My partner and I will be watching TV and we'll say 'that person has got the same psyche as blablabla' and we'll go 'ah yes of course' it's like there is one person that manifests in different bodies. We see it all the time. In many ways with psyche, it probably has a similar underlying root as astrology.

Korinna: I agree, and that's quite similar to a lot of what Jungian astrology is saying.

Participant T: also too, Chinese astrology seems to be more focussed upon psyches. You can't really understand Chinese astrology without understanding psyches, they're fantastic. If you ever had the pleasure of seeing the tiger in a person born in the Year of the Tiger or the monkey in someone born in the Year of the Monkey. You've only got to see it in one or two signs, it will blow you away. It really is quite classic. Chinese astrology is in many ways far more advanced than Western astrology - it's really very subtle but hugely powerful. Although, the same 12 signs again.

Korinna: I've only really studied western astrology so far because there is a limit to have much we can cover in a short space of time.

Participant T: Well western astrology is good. The only reason I stopped doing Chinese astrology is because when I was doing it there was no software for it back then but software turned up for western astrology. If I could only do one horoscope for a person I would do a Vedic one. But I prefer western for the more psychic astrology. It's more psychic than Vedic. It was only because I started learning Vedic astrology that I actually understood the mechanics behind the ages because they use a different zodiac, and because the difference between the Vedic and western zodiacs create the astrological ages. It was only a year or two after that I had my first epiphany about 'this is craziness about the age of Aquarius'. What is this nonsense that people say the Age of Aquarius has no exact beginning? Everyone knows when the sun enters Aires, there's no difference. For some reason we were meant to say 'ah no we can't say the start of an age, there is supposed to be some blur'

Korinna: Yes it doesn't seem to be compatible with the rest of astrology

Participant T: Yes and because you're not an astrologer, you won't appreciate the nuances of houses, but I tell you, its just a joke. To me I look at it and think 'you're a serious astrologer and you use that house system, okay' (laughs) They say that when something is wrong, people just come up with more and more bizarre excuses to explain why what is wrong is right.

Korinna: Cognitive dissonance

Participant T: That's incredibly strong in the world of astrology, I actually sometimes go to online astrology groups just to see what people are on about and you realise whoa out there in the great unwashed it's kind of like if you can think it, it must be real

Korinna: Do you find yourself debating those people?

Participant T: I used to, but it's a waste of time. It's like me debating with someone who's a Christian or a Muslim or a Buddhist. What's the point? You won't change someone, people have their own fated destinies it seems. You've got to realise you've only got so much time. I've got more research, more books, more things that I could ever fit in the rest of my life, so what's the point of going at it with some 25 year old on some site that is trying to tell me that they were born on the cusp of a sign. I will try and explain to them that cusps don't exist and they'll say 'that's your opinion'. You've got to keep clear on what you're trying to do. The weirdest thing is I never wanted to be an astrology researcher, I never wanted to do talks, I never wanted to write a book, I never wanted to do any of those things. It's just because I had an epiphany one day and I thought 'I wonder when the Age of Aquarius started' I should have hit myself on the head and stopped.

Korinna: Well it must have been your fate!

Participant T: It is, even when I look at my horoscope, when I was in India this year, I went to a Vedic astrologer and yeah it seems yes you are fated. I was always fated not to have a quiet life.

Korinna: Well there we go. Thank you very much for your time today.

Participant T: What's the core of your dissertation? What are you trying to show or prove or explain?

Korinna: The working title right now is 'a philosophical exploration into the motivations of scientifically-oriented astrologers'

Participant T: You've picked yourself a very nice one! Congratulations, that's very nice.

Korinna: And the overarching question is 'to what extent can science account for astrology'

Participant T: I always tell astrologers that in general they have got an inferiority complex. They're always freaking out about the science and people won't believe in astrology. I say why do you care? It's a collective inferiority complex. You can even use astrology to prove it's an inferiority complex because the main sign for astrology is Aquarius and the opposite side is Leo. Leo rules ego and external strength. Anything about Aquarius lacks ego. But yeah astrologers have an inferiority complex. They want scientists to believe in astrology.

[End of interview]

Participant P Interview

Korinna: Let me start quite broad, what made you take a scientific approach to astrology?

Participant P: Well, I started… my first interest in astrology came from really stumbling on a simple sun sign synastry book called Linda Goodman's Love Signs, which was a best-seller in the 70s; and I found a second-hand copy and I could just read in these descriptions… because I was just… how old was I? I was about 20 at the time and I was studying at university - not sciences, arts. But I was really surprised by how clearly I could relate from her descriptions of the theoretical interactions between the sun signs to personal relationships within my family and connections with close friends, people I knew well, and I just thought: I've got to look into this further because this seems, based on my experience, to have some truth in it. Until that time I'd never really taken astrology that seriously because like you, my only exposure to it had been the sun sign daily columns which are very limited. So I wanted to investigate the subject, and, to answer your question more directly, I think because astrology makes claims that there is some kind of correlation drawn implicitly between planetary positions and birth and character and personality, that is inherently a scientific claim, even if astrologers don't necessarily like to think of themselves as scientists because quite a lot of them are very spiritually-oriented people and perhaps don't necessarily, in all cases, have a scientific background, and maybe wouldn't prefer to think of it as a scientific discipline at all, but actually the essence of [a] factual claim that somebody with x planet in position y is going to be like this, whereas somebody with the same planet in a different position is going to be like this, that is a scientific claim. It is therefore logical and rational to treat at least elements of astrology as a claimed science. I say a 'claimed science' advisedly because, obviously, there is a lot of disputation regarding the validity of astrology as a science within the scientific establishment. Scientists often say 'Well, actually, you need to have hard proof of correlations constituting science, by conducting a very large statistical research sample and demonstrating that results that you get are beyond those that could be reasonably explained by chance'. In practice, that's extremely difficult to do, partly because of the number of different factors that are in a birth chart, and partly because all astrological claims are mediated by language, and a lot of that language is about personality, about tendencies; and it's not something which is easy to hold to a universally understood standard[162]..

Korinna: When you say there are a lot of scientific claims, do you think the claims themselves are scientific or that astrology itself is a science?

Participant P: I would say that because astrology as a whole is a very broad area, that it encompasses a lot of different types of belief and practice, some of which you could argue are not as scientific as the rest, for instance, there are people who practice forms of astrology called karmic astrology and evolutionary astrology which make specific claims about past lives, and from a scientific perspective it's very, very difficult, if not impossible, to prove,

[162] 'Which is easy to hold to a universally understood standard' - the transcript is inaudible on this point owing to a drop-out. Participant P has therefore reconstructed words that reflect his view on this point and are likely to be close to the meaning of what was said although this cannot be heard or clearly remembered.

first of all, that past lives are a real thing in the first place, and secondly that people's self-reported experiences of past lives actually relate to real past lives and are not just some kind of psychological manifestation in the mind. So there are areas which are less easy to test as science, and which do rely more on belief in a system, and belief that what certain astrologers have written is true; but there are lots of other claims which relate to the current life, to people's personality, to events that are more or less likely to happen at different points in time, which I would say are inherently scientifically testable claims.

Korinna: touching back on what you were saying about karmic astrologers, and people who use past lives, do you think that type of astrology is any less valid than more scientifically provable tests of astrology such as specific events?

Participant P: that really depends on how you define validity because there are different schools of thought about what is valid and what isn't valid. From a hard scientific perspective, it' s less valid because it can't actually be tested and demonstrated as a scientific fact. Anything related to continuity of life between incarnations is an inherently religious belief system and framework because you can't actually prove it. However, that doesn't necessarily mean it's less valid, because it can be argued that a belief system that gives meaning to people's lives has a value in itself - an experiential value, a subjective value that adds something, some sort of focus and meaning to the individual existence on a subjective level. And there are a lot of people who say, well, it doesn't really matter whether astrology is scientific or not: if it helps people, if it helps them focus their thoughts on understanding who they are and thinking about their place in the world in relation to others and their possibilities, then actually it has therapeutic value regardless. So, there are all kinds of different perspectives regarding what is valid, and the scientific one isn't the only one.

Korinna: I like the way you've framed that because meaning in itself can be valid and valuable it's just not necessarily quantifiable. In terms of the meaning that astrology brings to people - I've spoken to some people about astrologers whose purpose is more so entertainment as opposed to precise, scientific readings - do you think that can detract from the truth of astrology?

Participant P: I don't think it detracts from it, I think that any area of practice, people can potentially convert to entertainment. For instance, world events people can make stand-up comedy careers out of by joking about them in ways that entertain audiences. I wouldn't say it detracts from them: it's a tangential approach to them; it's really for a different sort of audience - an audience that wants entertainment is not so much concerned with truth or lack of truth in the fundamental substance. People play all kinds of games which are pure fantasy: board games, Monopoly, for instance: which are not based on reality, they're just based on fantasy, but they're still entertaining. That doesn't mean… for instance, the fact that there's a game called Monopoly which isn't based on reality doesn't mean that there aren't real trades in property too - there are! So… just as a kind of parallel!

Korinna: Ah yes, it's useful way of looking at it. On the notion of proof then, do you think there is such things as absolute truths in the same way that science tends to think there are?

Participant P: I think there are ways that you can apply tests in terms of the consistency of relationships that can show something which is claimed as a truth - to be more or less likely to be true, but because every single case at any point of time, of any kind of event, or happening, or person being born, is slightly different, it's virtually impossible claim anything

as absolutely proven. I think consistency of results and of correlations is really the closest you can get to absolute truth in scientific terms. I would also add that there are a lot of areas of soft science such as sociology and psychology that are not held up to the same exacting standard as the hard physical and biological sciences in terms of statistical research, and yet are accepted as being valid because they're useful; and it may be that in its current state at least, to practical intents and purposes, astrology is more akin to something like psychology. From the point of view that it doesn't have an established body of exact scientific proof akin to the Higgs boson, for instance, which demanded an absolutely vast number of statistical samples to prove the existence of a fundamental subatomic particle. You can't really do that with something like astrology or with psychology, because people are complex and a lot of psychology is based, in my opinion - I don't have a degree in psychology - but just in my opinion based on everything I've read and observed, it's based upon the ideas of influential psychologists who have written all kinds of influential publications and influenced their peers into making categorisations of human psychology, categorisations of mental health that others have found useful; but there's no scientific proof of those either!

Korinna: You made a very good point there about it being hard to test human behaviour. In that case, do you think it is even necessary in astrology to test in the first place? When there are such discrepancies between humans?

Participant P: I don't think it's invalid to test astrology, but I think from the point of view of typical practitioners who use astrology to give counselling, the level of precision demanded by conventional hard science standards for scientific proof would be superfluous. From the point of view of a counselling astrologer, if their clients get benefit and value from their advice, and can relate to what is being told to them, that is broadly enough. However, if you're not in a counselling role as a professional astrologer and you're actually in a research role and you're really looking to underpin astrological claims with hard research, then in that role, it does become important to try to establish at least greater or lesser degrees of evidence for astrological claims. One of the other problems is that there have been so many different astrological writings by self-appointed astrologers over centuries, who have done a combination of repeating received astrological doctrine from others before them and adding their own observations - and there is so much variation as well within the corpus of astrological writing, that when it comes to testing astrological claims, one of the issues you have to face is that there are so many different claims. You could read a hundred 20th century books all of which give descriptions of the effects of the planets in the signs and houses, for instance. But you would find, probably in every single one that was more than a certain length, more than just a paragraph or two, some individual differences. And then you're faced with the problem of how do we test all these different claims? I think that to do it thoroughly would take an absolutely vast amount of time and research resources, and if you don't do it thoroughly, if you just cherry-pick this or that writer because it's what you have to hand on the shelf, then you could always argue that: 'well, if I don't see hard results from this test, perhaps it's because this writer has based their claims on observations in a limited number of cases and they've misread from that. Part of the problem with astrology is that there are so many different factors in each astrological chart that, even if you're taking an empirical approach to deducing the affects of astrological placements, you're having to sift so many different placements, and try to work out which ones are causing which effect, that there's a certain risk of blurring, and perhaps mistaking what one effect is coming from one cause, when it could be partly, or wholly, from another. So, that really I think is a problem which has afflicted astrologers of all times: simply working out what - even if we assume for the sake of argument that astrology works - working out what causes, what astrological

placements, have what effects. That's not easy to do based on observation alone, because there are so many different placements.

Korinna: In that case, do you think in theory a sophisticated computer program could perhaps work better than an astrologer?

Participant P: I think certainly, any computer program is only as good as the programming that goes into it. But if you work out an intelligently thought-through program that's designed to collate all the available evidence from thousands of different birth charts and link those to observed characteristics in the people concerned, it would probably be beneficial to have a computer program that could save time on sorting through those. I know that some of my colleagues have been working in this area. But I think there's still value in taking a large sample and looking for deviations from what would be expected by chance for individual factors, as well, because sometimes, you don't necessarily know where a correlation is going to lie until you look at all placements and how they vary from the norm for a given characteristic. To have that open-ended approach to research is a good idea as well.

Korinna: Do you think there are additional factors at play too such as intuition or psychic abilities or just the human touch, do you think those are necessary too or is a computer enough?

Participant P: I don't think intuition at the level of reading for an individual is necessary to account for astrology seeming to work. Because we have this huge printed corpus of delineations for particular placements, which are not linked to intuition, they're not linked to whole individuals even, they are just claims that Venus in the fifth house, for instance, has this effect; that Neptune in Pisces has this effect, and so on. And that's not dependent on intuition. However, from the standpoint of a practising astrologer who's running a professional practice, intuition can be a helpful guide to where to take a counselling session, and that's exactly the same as it is for a psychotherapist, who will be guided by subtle clues from the patient to lead the conversation in certain directions. For instance, the patient may react in a certain way to certain remarks that make the psychotherapist think that that is actually something which is a sore point or something of particular importance for that patient, and they will then take the conversation further in that direction. Well, in that respect, astrology as a counselling profession is no different, but it isn't the essence of astrology.

Korinna: So what is the essence of astrology?

Participant P: The essence of astrology is the notion that there is a correlation between the variable characteristics of people born at a certain point in time in a certain place and the celestial environment at the time that they were born, and also between transient events and the celestial conditions at that time. And that notion of correlation is an inherently scientific claim.

Korinna: Why in your opinion does astrology face more criticisms than other soft sciences such as psychology.

Participant P: I think partly because the nature of astrological claims are not just that people vary in their psychology, which is something psychology recognises, that people are all characterised by a different sort of personality. Psychology doesn't claim this is caused by celestial conditions or that it correlates to them; and it's that correlative element to the claims

of astrology that draws the scrutiny of hard scientists, and so, for instance, physicists will look at astrology from a standpoint of, 'well, how can astrology possibly work, given that [of] the amount of radiation that arrives at any point on the earth's surface, the amount of that that is variable depending on the positions of the planets and the sun is very, very slight, so a physicist would argue from a doubting perspective: 'how can this work physically?' But historically, I think it's also worth bearing in mind that in the early 20th century there was a very, very strong drive by many astrologers to improve the scientific standing of astrology; and there was this whole movement of so-called 'scientific astrologers' who were trying to mark themselves out from other astrologers by their more rigorous approach to empirical research. And so, for instance, I think originator Paul Choisnard, he was the one who first developed the notion of 'astrologie scientifique' (which is French for 'scientific astrology') around 1899 / 1900; and he was the first who began publishing statistical research in esoteric and similar magazines in France at that time. And that started the tradition of modern statistical astrological research which has continued ever since, but it really culminated in the 1970s with the work of Michel and Françoise Gauquelin who, as you're probably aware, took very, very large numbers of French birth data and tried to correlate it to people's choice of profession, and drew deductions on that basis in their published research. I think some time around the 1940s there was a senior astronomer called Bart Bok in the United States who took great exception to astrology. For him, astronomy was a pure science, and astrology was - I wouldn't say exactly a corruption of that - but it was invalid, from his point of view. And so he went on a kind of crusade from the 1940s onwards to damage the public standing of astrology, and this culminated with his joint effort with the late Paul Kurtz in the 70s, which was this '176 scientists' Objections to Astrology'. It was a pamphlet; I think it was an article in The Humanist, which was edited by Paul Kurtz. And then from that point onwards, Paul Kurtz himself - hepassed away a few years ago, but he spent the next forty years of his life dedicated to anti-astrological sceptical publications, and set up his own publishing house called Prometheus Books that released all these books trying to cast doubt on the scientific validity of astrology; and he set up this magazine called the Zetetic as well, with exactly the same purpose. So from the 70s onwards I would say there's been a much more concentrated anti-astrological sceptical movement; and because people working in the sciences are very mindful of their careers and their reputations, while the scientific establishment rejects astrology as being valid, they tend to toe the line and are afraid to speak out, even if they privately enjoy astrology, which some do. For instance, there have been one or two people working for NASA who have gone anonymously recently and privately stated that they practise astrology in their free time even though they're NASA scientists who are working strictly within astronomy for their profession. So I think it's been a combination of the inherent scrutiny that claims of correlation with astronomical correlates or causes increases, on the one hand and also, this dislike of astronomers for astrology, because they're only really interested in… [inaudible][163] and they have really no interest in analysing human psychology… [inaudible].. They sort of see astrology as latching on to, as harming what they're doing… [inaudible][164]. So there's this mistrust by astronomers towards astrology, and by physicists towards astrology. And then you also have, ever since Paul Kurtz got this sceptical movement really going ablaze in the 70s, you've also had others such as Richard Dawkins who are science writers who are typically atheistic and deeply sceptical, who don't really investigate astrology on its own terms, because really they've made up their minds that

[163] [inaudible] – this entire section is impossible to hear, but the probable meaning was along the lines of 'the physical nature of the universe'

[164] [inaudible] – possibly along the lines of 'to the effect of confusing people', though this sentence is almost impossible to reconstruct because it's so hard to hear

it's pseudoscience. And they will preach [that] it's pseudoscience, and people follow them in that belief. And I would say much the same with Brian Cox, who, when he's asked about astrology in the press, and if ever it comes up on the TV programmes that he presents, he just dismisses it with a rude four-letter word or something in perhaps not so rude [terms] sometimes: maybe just with a simple sentence, just puts it down. He doesn't justify that. He doesn't justify it because he hasn't actually studied the scientific research into astrology that's been happening on the fringes of astrology.

Korinna: I think in cases like his, he is firm in his belief system is to distrust astrology. I don't know if you've seen David Cochrane's lecture on sacred geometry in the sky, the zodiac and how psychics proves a relationship?

Participant P: I haven't seen that but it sounds fascinating

> Follow up note from Participant P: I've met David actually (we were both speaking at a conference in Italy in the summer of 2017) and seen some of his videos before. He's definitely someone whose research and mind I admire. His first book on astrology was published way back in the 1970s. Sorry, it was probably the noise on our Zoom connection, but when you mentioned a piece of research I didn't recognise the name you mentioned as his, so I thought it was that of someone I had not heard of before! All is clear now, and I look forward to listening to this later.

Korinna: I will send you the link its fascinating and based in physics- despite this though, there are scientists, sceptics and astronomers who still reject astrology. On that point, do you think it is perhaps why scientific astrologers have taken on the responsibility and duty to keep providing this evidence to support astrology's claims?

Participant P: Rather than say it was a 'duty', because that suggests a kind of almost tribal obligation, which some people may feel, but not necessarily everyone does, I would say more [that] it would be advantageous for them to continue to do so, and it's something which I would certainly support and encourage because I think it would be very beneficial. Going back to what you were saying, I'm not familiar with the particular piece of research you mentioned, but there have been other people who have come up with quite elaborate physical theories for how astrology may function, for instance, Percy Seymour is one of the most famous. I think his theory was a little bit more complex; it was more heliocentric. He was linking perturbations to the Sun's field by the planets as influencing the type of radiation given out… [inaudible][165]… which from the point of view of a geocentric astrologer doesn't really help all that much, but it was an interesting hypothesis. There was also a (nowadays elderly – in his 80s) French astrologer called Jean-Pierre Nicola who wrote a little book called Essais sur les Bases de l'Astrologie Physique ('Essays on the Basis of Physical Astrology') I think some time between the 50s and 70s, I'm not sure exactly when. But he really tried to look at the zodiac signs as a physical manifestation of the [apparent] orbit of the sun and planets around the earth, and tried to understand the relative effects of the zodiac signs in terms of this orbit, which is really trying to give a rational explanation of why the tropical zodiac works as it does, so he is a very interesting character[166] to read as well.

[165] [inaudible] – the soundtrack suffered a severe drop-out here but the essence of the meaning was '[…] by the Sun and received by all organisms on Earth at each specific point on time'
[166] [character] – this is indistinct but this comes close enough to the meaning

Korinna: I wanted to begin to wrap up the interview now. Given everything that we've spoken about and the broader subject of science and astrology, do you think the scientific approach to astrology is a better form of astrology than say psychological astrology or other less rigorous methods of astrology?

Participant P: Well, in terms of gaining credibility for astrology within the scientific community, the research that we've talked about is essential. That doesn't mean that for people who are practising astrology today, such as psychological astrology and karmic astrology, that doesn't mean that it's necessarily relevant for them, because so long as they are getting satisfactory feedback from their clients in their counselling role, because… for practising professional astrologers who are doing counselling, I would say that is a helping profession, and that's a little bit different in essence, as we talked about earlier, from astrology as a field of scientific study in itself. So I think the research results, the results from scientific research into astrology, can help inform astrologers as well, and for instance when the Gauquelin research was published, a number of people since then who have written books on the effects of the planets in the houses have changed their interpretations because Michel and Françoise Gauquelin found that [certain] planets were often present in either the 9th or the 10th house for people in particular careers. So for instance, Stephanie Camilleri wrote a book called The House Book around the 1990s; and she gives, I think, a single interpretation for planets in the 9th and the 10th house, because of the influence of the Gauquelin research, so that's an example of a practising astrologer being directly influenced by scientific research; and I think it can be helpful like that. I also think there are all kinds of areas of astrology where it will be a long time before there's a sufficient body of scientific research established to deal with and analyse all the existing claims that have been made to the satisfaction of astrologers who are using those in their practice. Partly because of the inherent absence of funding for astrological research, I also think it's likely to be a slow process, unless there's a big breakthrough that then brings a lot of funding in at some point. But at the pace we've been going for the last 50 years or so, I can see the body of research still being built up hundreds of years from now.

Korinna: Yes I understand because the Mars effect is famous, and even regardless of that, there's still a lack of funding so it is definitive a long journey. And the final question I'd like to ask you is do you think science can explain and account for all of astrology?

Participant P: I think I would have to go back to my earlier response on this, which is to say that because there are lots of different astrological practices, not all of which can be scientifically tested - in particular, claims of past lives - I would say not all astrologies, or not all versions of astrology, can be explained by science in a way that is supported by rigorous testing, at least, and you could argue that perhaps you can account for karmic astrology in terms other than scientific, based on observations of people's psychology. For instance when I read 'Spiritual Astrology' by the late Jan Spiller and Karen McCoy, which was a very popular book in the 80s that has been through many printings since, that gives readings for pre-natal eclipses in relation to past lives, when I read that I thought: well, actually I don't really believe that we can prove past lives, but this is beautifully written and it's psychology insightful in a way that gets you thinking about people's inner motivations and minds and spirits… and that can be useful even though it cannot be something which you can scientifically substantiate.

Korinna: I know I said that was the last question but I just want to clarify, so even though science can't account for certain parts of astrology (like karmic) is that still astrology?

Participant P: I would say 'yes' to the degree that astrology in all its forms requires human interpretation, just as schools of psychology do, and Ssystems of psychological characterisation and classification of people do. You can say that perhaps without the existence of the human observer, certainly there would still be physical effects, variable physical effects, at the earth's surface, from changes in the celestial environment, but the element of human interpretation, I think, is part of the culture of astrology. You could perhaps say there's a distinction between purely testable, natural astrology which if in an ideal testing regime, you could test it and prove that it's true, could be demonstrated as scientifically factual, and then on the other hand, cultural astrology which is all the interpretations that people have given to what they think and believe from their experiences and their empirical practices of testing and observing, to be true. It's all part of astrology in the bigger sense, but not necessarily all believed observations would hold up to scientific scrutiny.

Participant V Interview

Korinna: I'll begin the interview by asking about yourself. How did you find your mathematics background has helped you with astrology?

Participant V: It is a complex question because I remember that when I was a science-oriented and math-oriented student, I had a very skeptical profile. My mind was so logical and skeptical that I wouldn't allow astrology to come in. I asked too many questions. But in spite of this, I had tried to learn astrology when I was younger. At that time, we didn't have computers; so I learned "old style" with a calculator. I thought that astrology was overdetermined and too ambiguous, so I just quit by the age of 18. My mathematical mind was an obstacle, a block. The next time that I tried to learn astrology was after reading Arthur Koestler, who was an important thinker for me. I read everything that he wrote. In The Roots of Coincidence, he explains certain theories of parapsychology and the Rhine research. I took it seriously and at that time I was also more into spirituality. So then I decided to go into astrology more deeply. And the math obviously helped me to process everything, like understanding that astronomy and the calculations… I think that if you are not at least a little math-oriented you should not do astrology; a lot of people who are attracted by divinatory arts would probably be more happy with Tarot or clairvoyance because astrology is a bit technical and numbers-oriented. Especially in my case, my background was helpful because in the last 14 years I developed an expert system that involves math, probability, and programming ─ this is my main contribution to the field. So I really began astrology in 1977. The actual experience that convinced me to persist after two previous failed attempts is that, one day, while I was doing a chart and thinking "That person should be very impatient and aggressive, how come it doesn't show at all in their chart?". Suddenly, I discovered that I had the wrong year... this often happens when you do the calculations by hand. So I had what you call the Popper falsification principle that was at work. This statement was falsified. This was really an important moment in my astrology study and it's funny that my doubt that astrology was too vague, too general, was reversed at that moment.

Korinna: When you mentioned that you thought astrology was too "vague" did you mean in terms of the interpretations people were getting from the chart?

Participant V: Yes.

Korinna: Do you think astrology then has the ability to provide very specific answers or 'facts'

Participant V: Yes. If you're ready to accept error and you're ready to evaluate with statistics or probability your levels of error, yes. But it's like all social sciences, like psychology; it's not a hard science like physics or chemistry. But the problem is that this validation dimension of astrology is not well developed. To put it simply, it's like an equation. On one side, you have the cosmos, the planets, and their mechanics for which we have very accurate and refined mathematical models. And on the other side, you have the "human phenomena" that you're trying to describe with this "celestial clock" but the description of these "human phenomena" is vague. I mean, how do you describe a person, how do you describe events? It's social science, it's psychology, and so on. So in the astrological community, the majority of math-oriented persons work on the first side of the equation. They work on the celestial clock to make it more adapted to astrology, to increase the number of factors and refine them. But the other side of the equation is neglected. When I was younger, I was interested in celestial mechanics and all the maths that is involved there but this field of research doesn't need me; it is well done by a lot of people. But the other part is really weak and needs researchers to build models. In other words, there is a majority of astrological researchers who are very refined to study the sky and derive factors from it in order to develop new astrological models but they are not refined in verifying how we can prove it works. It is a bit shocking to realize that almost all researchers with mathematical and computational knowledge who work with talent to develop the "celestial clock" part of the equation are neither interested nor equipped to work on the other part. They do not seem to have the basic mathematical knowledge to establish probabilist protocols to test whether their models work. Generally, their confirmations are limited to anecdotal verifications on a few cherry picked cases. In short, a lot of sophistication to develop models and no sophistication to verify them. This verification process belongs partially to the field statistics. The first man who tried to do that is the French Paul Choisnard at the beginning of the 20th century. Because it is very complex to do correctly, what he has found is mostly wrong but his project was very valuable. The statistics are hard because of demographic bias, astronomical bias, etc. Later came Léon Lasson, Vernon Clark, and a few others,especially Michel and Françoise Gauquelin who have made an immense contribution to astrological research. But the problem is that, now, in research, there is a lack of creativity to go further and a majority of researchers surf on Gauquelin's work more or less limiting themselves to commenting on what the Gauquelins did.

Korinna: Do you think the Gauquelin's experiments helped or hindered astrology?

Participant V: It is paradoxical because, on the one hand, it helps in establishing the existence of a connection between the cosmos and human affairs. But, on the other hand, it is a kind of poisoned gift. Indeed, what the Gauquelins "rediscovered" and proved about certain planets is really compatible with the astrological tradition; for instance, Mars for sports and war or Jupiter for authority and self-confidence. This is a brilliant confirmation of what we already knew in astrology. But at the same time, the significant positions of the planets as found by the Gauquelins are not the precise angular positions like what we astrologers are used to. It's about 17-19 degrees past the exact angularity in cadent houses. This is a big problem. Among the people that you have interviewed, there are researchers including myself who studied that problem trying to explain this embarrassing discrepancy; but nobody for the moment can explain why the peaks from the Gauquelins results are not angular. So I have two hats when I practice astrology; I am still influenced by my readings about the exact angularity of planets

but at the same time I'm telling myself that I should be more influenced by Gauquelin's findings. If a planet is 19 degrees before the MC, it should be stronger according to them. So it is a troublesome gift but I still think it is a gift more than poison. We must also not forget this other huge gift they gave us with all the birth data they have painstakingly accumulated in the mail over the decades

Korinna: You used an interesting word, "embarrassing", is that in relation to what skeptics think of astrology?

Participant V: No, there is a big controversy there and that is another story. I mean it is embarrassing for an astrologer because it is not standard and at the same time, it is an extraordinary strong proof. I believe that the Gauquelins' results are valid, they didn't cheat and so on but at the same time even if it validates the significance of planets you can ask a lot of questions, such as "how come it is not perfectly angular?" Also how come they didn't discover results with Uranus? Neptune? Michel Gauquelin studied scientists so he should have seen peaks with Uranus; this is probably very interesting for the traditional XVIth-XVIIth century astrologers who don't take into account the modern planets. But for me, it is embarrassing. In my practice, I observe that Uranus is significant and strong in mathematicians' and scientists' charts. So how come Gauquelin didn't find anything about Uranus? We should work on that.

Korinna: You mentioned traditional astrologers there, do you think different approaches to astrology can work equally as well? Such as psychological, traditional, Hellenistic, etc.?

Participant V: I don't want to go too much into that because I don't want to get into controversies. I am not interested in all types of astrology. One very striking paradox is that among the people who are really fond of traditional astrology, a lot of them are very dogmatic and fanatic about that approach, in their reaction to modern humanistic astrology and karmic astrology. Many of them studied that type of astrology before and they were disappointed by this Rudhyar current and they think that this psychological approach is unreliable so they want "factual astrology"; indeed, often their way of justifying their interest in tradition is that they don't want psychology, they want facts. This looks more rigorous but, in my opinion, the models they use are so overdetermined, have so many rules, that ultimately, contrary to what they claim, they rely on intuition. I haven't seen any valid research about their results. On the other hand, in the XXth century, you don't have only humanistic and karmic astrology. There are other currents that are more testable rigorously; for instance, I don't know if you're familiar with Reinhold Ebertin's Cosmobiology which uses midpoints. Unfortunately, it has been forgotten a little bit and the majority of midpoints users practice Alfred Witte's Uranian astrology. They were competitors and we can say that this Uranian astrology "won" and became more fashionable; more people are interested in Uranian astrology than Cosmobiology; this is a problem for me since Uranian astrologers work with imaginary planets invented by Witte. They work also with planetary pictures built with four planets which generate much more combinations in their system than in Cosmobiology. For me, this is too much. If you're a scientific mind, one of your rules is the principle of parsimony, meaning to do more with less. This principle is generally neglected by astrologers. Ebertin was one of the few to use the principle of parsimony. One of the main reasons for that neglect is that a majority of astrologers mainly do astrological analysis after the fact. Almost all astrology books present after the fact analysis. We know something happened, then let's comment about it. You know it happened, you want to explain it, you claim it's very clear astrologically, but you would never have seen it beforehand and, often

worse, even knowing the date, you wouldn't even have known what it was but you come to claim after the fact that it was obvious. An astrologer can find an explanation to any event after the fact with tools that they don't use regularly: "look at this monomer degree", "look at this paran", "look at this fixed star", "look at this planetary picture", "look at this asteroid". The more they can do that, the more they are considered competent. For me, it isn't rigorous competence because every time they say "this explains that", they don't realize that by doing so they are creating hundreds of false positives because they don't care to look for them. If you get an event on a certain date and you look punctually at the event and you don't look one year, for instance, 6-months before and 6-months after, you will say "I see your accident because you had these transits". But if you take the explanation given for the accident and you apply it over a year, you're going to find out that you had a lot of "missed accidents", many false positives where nothing happened. My big principle is to always work systematically with the same factors and I'm ready to pay the price of a certain amount of failures. For events, for instance, I work primarily with regular aspects, transited and transiting midpoints and no houses. When it doesn't work I admit it is a failure and I don't try to put something else. I try to be as accurate as possible with an economy of tools and factors.

Korinna: On that point when you say it doesn't work ─ what does that mean?

Participant V: I'll give you an example, on the 14th of June, based on the model I work with, I made a prediction about Donald Trump's health. I gave 3 critical future dates. I saw that because, like many astrologers, I was investigating the American election issue. I thought "Oh maybe Trump won't get there because I see the possibility of him dying before". But I never wrote that. I wrote "health problems". I saw 3 dates, it's on Facebook. I wrote the 2nd of August, the 17th of August and the 28th of September. In my expert system, I generate Forecast Curves based on transits and midpoints combinations to which scores are assigned according to a probabilistic model. I don't have the time or space here to explain how it works in detail.

https://youtu.be/lDCySWtZqOY

Coming back to my prediction, on the 2nd of August, nothing happened but there was a kind of rumour saying Trump has been in the hospital but it was not official and it could be fake news. On the 16th, his brother died; he was very close to his brother, who was supposed to be his best friend, so Trump was probably very affected by this mourning. The last date was the 28th of September and that's when he started having the Covid. That was my main prediction because it was also supported by solar arc and secondary progressions. But if nothing had happened on those dates then I would have simply admitted that it was a failure.
One astrologer wrote that the brother's death "was not the realization of a prediction about Trump himself"; but I claim this is about him because I think that we don't predict events; we rather predict what I call "events in consciousness"; so, we can say that in your consciousness death is really present if your close brother dies. I got a lot of examples to illustrate that principle; here is one I often give. I was on a plane that was landing in Brussels. We had already started the descent when the captain announced that we were not going to land at this airport because there were two fires. In reality, it was this big terrorist attack in Brussels on March 22nd, 2016, which caused 18 dead and 92 wounded. At that time, I had a maximal peak of death. The attack occurred close to the Air Canada counter which was my flight company. I don't need to explain to you how intensely I thought all that day about the death I might have escaped.

Korinna: I'd like to talk more about "events in consciousness"; that's a new phrase to me. How is science able to account for events in consciousness when consciousness is something that is so abstract?

Participant V: You're right. Let me give you another example, then I'll explain further. According to my astrological model, I had a strong probability of accident and injury about 5 years ago and I had to drive my car to Quebec city for an event. I was very careful while driving and nothing happened. At night, in front of my hotel, I was discussing with a friend and CRASH! a car accident occurred about ten meters away from me; it was the first time in my life that I was so close to an accident. So, in the end, it was the predicted accident that was experienced as an event in consciousness. I was not personally involved, I was not hurt but I couldn't make clearly this distinction in my chart. It's difficult to do research if we accept this interpretative extension to subjective events. But, for research, we can restrict ourselves only to real objective events, for instance only to real accidents, because it's too difficult to measure events in consciousness like "I witnessed an accident". Even when restricting ourselves to objective events, we can get significant results, accepting it lowers our rate of success, but I know it works because I've done it; I'm going to publish research with 600 accidents. Accidents are partially predictable with a measurable probability; what is important is to do better than pure chance.
I think that a good way to improve one's astrology or to do research is to work with biographies; but there is a tool much better than biographies that is not used enough: the diary (in French, we say "journal"). For instance, in The diary of Anne Franck, Anne Frank wrote daily a lot of details about her life: her first kiss, a quarrel with her mother, and so on. This type of literature is well developed and there is a considerable number of diaries that have been published. It seems to me that it is the ideal tool to work with to validate astrology.

Korinna: On tools to validate astrology, hypothetically could a very sophisticated computer system do better than an astrologer to interpret events, or is an astrologer's input important in astrology?

Participant V: "Better than an astrologer to interpret" ? It could be but I wouldn't claim that too loudly. Indeed, I designed an expert system implemented in a software called Mastro Expert. I worked on it for 14 years with a collaborator. It would be perceived as extremely arrogant and "anti-spiritual" to make that claim, which would sound as if I was denying human intuition. As a matter of fact, there is "something" that resists all the time to the machine, that we associate with intuition. Let's look at another field. When I was young, there was chess-playing softwares. And the specialists thought they could never beat the best players in the world; and yet it happened in the 80's. Even with the game of go, which is a lot more complex than chess, it happened. Now you're going to tell me, rightly, that astrology is something else. There's a part of it like chess but it also involves dimensions that are more spiritual. The machine cannot compete with human intuition. But if it is well programmed, the machine has certain advantages like a bigger memory and it is efficient because astrology is complex, with a lot of vocabulary. The astrological corpus is enormous. The computer could also support astrological interpretation with its high computing speed which makes it possible to consider a very large number of hypotheses much more quickly than the human mind; one understands immediately the interest that this represents for rectification and even for forecasting over long periods. For certain abilities, we cannot compete with a machine, which can accomplish certain tasks much better than human beings. The usefulness of an expert system is clear when confronted with the difficult problem of doing something other than "after the fact" astrology, such as actual forecasting taking into account the large

multiplicity of possible significant factors. In other words, when we want to work with a lot of possible events over long periods and find what is significant, the machine helps us because there is too much information to process. Working with the Forecast Curves on long periods, when we come to a peak, we know that there "something there"; then at this moment human intuition takes over.
Coming back to research, I recently published an article about a matching test in the magazine Correlation. You may have heard about the Carlson study that invalidates astrology; that was my main focus when I did my Matching Protocol. As a matter of fact, Carlson was not the first to do a matching test: in the sixties, Vernon Clark, has done something similar. In the Carlson study, he made tests with some good astrologers. An astrological matching test is similar to blinded wine tasting tests: it gives you anonymized charts and descriptions and you have to match them correctly. In the Carlson test, you started with a chart and you had to match it with the good portrait chosen among three. I've done something similar but harder to achieve; in my initial research, I had 42 subjects taken from a book containing one hundred short biographical portraits of contemporary celebrities compiled by the famous French newspaper Le Monde. When you do research, you have got to be very accurate in the way you select your subjects because you are going to be accused, rightly, by the skeptics of cherry picking or editorial withholding, i.e. when it doesn't work, you don't put it in the experiment. In that book of 100, I could use only 73 people because the birth time of the remaining 27 was not available. I began with 42; then later, I did a replication with the other available 31 subjects. For each subject, my system gives a list of descriptive personality traits, so by combining my study and my replication, in total I get 73 lists of descriptive psychological keywords given by Mastro. I extracted from the book 73 lists of descriptive psychological keywords obviously forbidding myself to look at neither their astrological charts nor the lists given by Mastro. So here we have 73 astrological lists generated by the computer system and 73 biographical lists. Then we have to do valid, blinded matches like in the Carlson study. To achieve this, I had to examine all the possible matches, considering 73 x 1700 = 5329 combinations. A human being cannot process such an amount of information. But fortunately, I had a system that can evaluate which are the best semantical matches between the lists. Indeed, I designed a tool called "Semantic Proximity Estimator". My results are extremely significant. There is only 1 possibility over 1 million that they could be attributed solely to chance.

Korinna: Are you saying that when we're dealing with numbers that the human brain can't calculate, that is when a machine can help?

Participant V: Exactly, it's impossible for the human mind. It would take more than one year, maybe two years, to do all the combinations and evaluate which ones are the best. The machine can do that. Actually, with the Semantic Proximity Estimator, I just reinvented something well known to linguists who understand how to compare lists of words. If you're curious, look at this YouTube video.

https://youtu.be/EyVe5T0j9mE

Another great advantage of using the computer this way for research is that it disqualifies the argument of skeptics claiming that the positive results are possibly attributable to clairvoyance rather than astrology.

Korinna: I'd like to go back to the two parts of astrology that you talk about; the processing side, the statistical analysis that the computer can do,. but it's the other side I'm interested in

hearing more about from your point of view, such as the spiritualism, or intuition or what you believe the nature of the cosmos is that means there is "something else".

Participant V: I feel extremely ignorant on metaphysics and I feel the same for astrology as I do in the rest of my life. I would define myself as an agnostic. What I don't understand, I don't have any opinion about it. Even if I respect those who try to find explanations for the mechanism of astrology, I think personally it is premature. Because what we need before, is what Carnap called "positivities" and we don't have a lot. Positivities in science are observable facts, something that we're sure of. In astrology, there are not many positivities to analyze. What is the purpose of working on a causality model that would explain something when we don't know exactly what is happening ? We don't even know the "what" of astrology. So I'm interested in working on "what are the phenomena". We should clarify what are the things that work before trying to explain why they work. The explanatory model quest is fascinating and it looks scientific because many who investigate that field are competent in physics and even in quantum mechanics. But for me, it is too speculative for the moment. My feeling is that if ever we come one day to have positivities and finally know clearly "what works" and "what doesn't work", trying to explain the mechanism will still be extremely difficult. You remember my equation metaphor? On one side, you had the mechanics, the clock, and, on the other side. you had the human phenomena. I didn't say what the sign "=" of the equation stands for: it is the mechanism, the explanation of how the two sides can be connected. I hardly ever think about it. It's over my head. I cannot even imagine how it works. So the temptation would be to state that there's no explanation, that it is something spiritual and unexplainable by nature. I don't know, I really don't know. It looks like pure magic.
I didn't tell you that I am a professional magician. I'm a mentalist. So, I practice the art of cheating and I do apparently unexplainable acts giving the impression of doing real mind reading for instance. Actually, for me, astrology is the only true magic in my life. I enjoy having at least one thing really magical in my life. As a magician, I don't believe in magic because I know I cheat. Some people after my shows say "I was a skeptic, now because of you, I'm a believer". In my mind, I think "Not me!" because I know I cheated, partially. There is a part of intuition in what I do but there is also a part of tricks. So, I'm cynical but the only thing where I am not cynical and where I just accept magic to be in my life is this astrological phenomenon which is unexplainable. In a certain sense, paradoxically, the more it is validated on one side and the less it is explained on the other side, the more I am happy.

Korinna: I love that because other astrologers feel like there is more research to be done, we can find the answer. you're saying that we can't find the answer?

Participant V: It's a fantasy. The answer that I'm looking for is establishing the facts. I want to connect the human phenomena with the planets, the cosmos, strongly, in a statistically refined way.

Korinna: It's a lot to comprehend when you try and think in the grand scheme of the cosmos. Do you think astrology is a natural science such as gravity, or is it something other than a science?

Participant V: I don't know. First, I'll be consistent: it is not yet science because it lacks positivities. One side of the equation is very refined but it is not astrology, it is astronomy. The other side is "social science"; the connection is astrology but, as I said, the explanation of the connection is over my head.

Newton probably made the greatest steps of scientific knowledge of all time, he is a pure genius in physics, optics, and calculus. You know what he said — I'm not sure if it's true — but I think he said something like "I was only a child by the sea and I just watched one pebble in the immensity on the shore". Think about that: for him, his gravitational theory was only a pebble in the immensity of the mystery. That was very humble and it means a lot to me. I think that this deep mystery is probably for me the best expression of religiousness or spirituality. The stronger the proof of astrology's positivities, the deeper is the mystery.

Korinna: Would I be right in saying — and I don't want to put words in your mouth — but would I be right in saying you think astrology is magic?

Participant V: No. Not magic nor science. Actually, I don't know what astrology is but what I know is that I just examine astrology with scientific tools but it doesn't mean that astrology is science either.

Korinna: And the scientific tools help you explain the phenomena?

Participant V: Not explain, just establish positivities, it just makes us certain there is really something. Actually, it's more than that, it is not only establishing validity. It's also about knowing what really works and what doesn't work. I'll give you an example. Kyösti Tarvainen has made research with very strong proof of something that I observed over the years but without being sure. He proved that, when you analyse natal charts, you're better with large orbs. This is not fashionable; the modern thinkers think the contrary; I remember I worked for many years with 5 degree orbs or less for conjunctions, oppositions, squares and trines. Many astrologers believe in tight orbs maybe because of the growing multiplicity of factors. But now, thanks to Kyösti Tarvainen, we have very strong statistical proof that the natal orbs work with larger orbs than we thought and we're back to what astrologers were practicing in the middle of the XXth century i.e. larger orbs like 10 degrees for a conjunction or opposition. I just checked this with my matching test and it confirmed Kyosti's finding; the test works better with large orbs. So this type of research helps us to see not why it works but how it works. Not the reason, not the explanation of the mechanism but what works and what doesn't work. There are a lot of things that don't work in astrology that we are not aware of. I have a metaphor for that which comes from a psychology department. It's a text where all the letters are mixed inside the words however keeping the first and last letter of each word in their correct positions. So, in every word, the letters are scrambled but you can still read and understand the text. It looks unreadable, but you can read it. Up to 80% of the words are wrong, most of the message is wrong, but you can still read and understand it. This is just like astrology. Even with only 20% of it being correct, it still works. There are many things I do as a practitioner that are probably wrong, like those scrambled letters, but the system works because there is a critical mass sufficient to make it work. If we improved astrology with more proven rules, it would be easier to read. Another very surprising and counter-intuitive example: a majority of astrologers think that the intensity of an aspect varies in function of its precision like a sinusoïdal curve which grows up to the exact aspect then declines when separating. But this is not true; research shows that the strength of an aspect as a function of its orbs follows a 0-1 rule, like a kind of "quantum effect".
For instance, if you have in a natal chart a conjunction with 6 degree orbs and someone else has the same conjunction with a 1 degree orb —all things being equal — the first conjunction is as strong as the second one because it works like "yes or no".

Korinna: Your approach is very different from other people I have spoken to; in your approach you are recognizing the vast amount of astrology that you don't know. It's surprising for me to hear since you have a mathematical background and in maths there is always an answer and your astrology has taken a completely different approach. It would be great to wrap up and know if you have your own definition of astrology?

Participant V: Simply, there is a connection, a very intimate connection, between the cosmic clockwork planetary system or more, and human affairs. And this connection works in a refined way with individuals and not only with collectivities. I don't know if it's causal or synchronistic, or whatever you want. I'm not even really sure that astrology is valid with inanimate objects devoid of consciousness; for instance, if you just take the birth of the Titanic at the moment they broke the champagne bottle on the hull and then you just study the transits of the ship to see if you can forecast its wreckage, I'm not sure it's really going to work. Maybe my point of view is incorrect, and I'm aware that it would invalidate, for instance, mundane astrology with countries. I mean "country" as an entity and not "country" as an aggregate of individual people. I'm not saying it doesn't work, I just didn't test it. The older I grow, the less I look for answers in books. Many astrologers think that to do research is to analyze books; yes, this is a kind research in the category of exegesis but my main interest is to do research with experimental tests. My favourite example is about Galileo and gravity; for 2000 years, humanity thought that heavy bodies fall faster than light bodies as we see with the stone and the feather. Actually, if you take two cannonballs of the same size but one heavier than the other, it's another story... Galileo thought "I'm going to test that claim". It was very revolutionary because it could call into question Aristotle and all the books; indeed, if you looked at the answers in books, there were a lot of reasons to think that these two cannonballs don't fall at the same speed. Legend has it that Galileo went to the Tower of Pisa, that he dropped the two balls of different weights simultaneously and that they arrived on the ground at the same time and at the same speed. I'm not against books, I love books; books are good at suggesting hypotheses to test and testing is fun. I don't believe in a statement because it is written in a book, I don't believe in "masters". The master for me is the experience and over all what I can observe and prove. I'm paradoxical because obviously I believe also in things that I haven't tested; I'm not only scientific, otherwise I wouldn't be able to practice astrology. I use a lot of tools whose efficiency has not been proven. For me, it's like a painter who says "I'm an impressionist, I work with big brushstrokes," and another painter who says "I'm a pointillist, I work with tiny dots". They only try to witness or capture a reality with different tools. A golf player for instance, in a specific situation, will prefer to play with a number 8, and another will play with a number 7: different tools in the same situation. This not science, this is art and technique.
In conclusion, I'd like to repeat that even if astrology is not a science, we, as researchers, use scientific methods to test it. There is a big ambiguity because skeptics say it's not scientific because we don't have any explanatory theory but we don't need a theory to establish facts. My mission is to observe facts and find a scientific proof that these facts are real.

[End of Interview]