

Astrology and Science: Two Worldviews searching for a Synthesis

Jesús Navarro

Abstract.

The astrological worldview takes for granted an interrelated wholeness to which man belongs, a systemic totality having harmony, resonance and tuning as primal characteristics.

On the contrary, modern science assumes a paradigm in which separateness, reductionism and empirical positivism implies the strangeness between man (the observer-knower) and universe (the observed reality).

This thesis-antithesis antagonism is searching for a synthesis capable of solving its contradiction into complementarity, giving rise to a new paradigm rooted in a man-cosmos integrated vision without losing the explicative success of modern science.

XX century research, both in science and astrology, have begun to pave the way towards such an emergent worldview.

This paper offers a glimpse about all of that.

Introduction.

Astrology, having a history several thousand years old, was a reputed science in the past, being academically accepted, studied in high degree curricula and dominantly present in western culture.

The arrival of modern science forbade its teaching and practice, removing it from universities and leaving no academic room for astrological knowledge.

Two confronting paradigms about man and universe were at the root of that historical breaking.

As we shall see in the first paragraph of this paper, astrology implies relatedness, mutual implication, global perspective, a man-cosmos tuning, the universe seen as an animated whole, giving rise to a worldview characterised by harmony and sympathy, a paradigm which was blown with the arrival of modern science.

Classical physics, based on Newtonian physics, presents us on the contrary a man, the observer, alien to the universe, the observed reality, a mechanical cosmos, an automaton made of inert parts and devoid of life, mind and intelligence, a paradigm to which the second paragraph of this work will be devoted.

But the XX century Einstein's physics revolution, joined to Planck's quantum theory, opened the door to a new scientific worldview which is now in progress.

As known, this new paradigm is founded in relativity (Einstein), i. e. relatedness, and uncertainty (Heisenberg), implying no possibility of describing the universe without taking into account the whole of it, as present cosmology is beginning to clarify, returning us to some philosophical ideas deeply rooted in the traditional, astrological paradigm, a point which will be stressed in paragraph 3.

Certainly, today scientific epistemological treatises continue setting aside astrology as having nothing to do with science, and not few astrologers have the same mind, but a different tendency has come into action pointing towards a synthesis of these two antagonistic paradigms.

The postmodern criticism of classical rationalism has, of course, helped that conceptual evolution, but also the fact that XX century astrology has given certain steps to accept some scientific research tools and methodologies, opening a growing dialogue with science and scientists and easing an actualised lecture of traditional ideas, as will be shown in paragraph 4.

The completion of a new scientific paradigm giving synthesis to actual and traditional postulates is a desirable, not warranted, but real, possibility (paragraph 5), having notwithstanding a long way in front of it: some decades, one century, perhaps more to be travelled and to render hypothetical results.

There are several factors which may, and would, help this process, catalysing it: paragraph 6 will be devoted to briefly consider them.

Finally, a seventh paragraph will conclude this paper pointing out several remarks about what has been previously explained.

1.- The astrological worldview.

The traditional paradigm, to which astrology belongs, postulates an interrelated universe, where both the whole is present in its parts and the parts reflect the totality to which they pertain.

The one and the others are harmonically interrelated, conveniently tuned and have a mutual resonance which permits to state a kind of universal holographic principle.

Truly, astrology was the leader of such a systemic worldview, becoming, in Knappich words [Kna 88], “the greatest tentative of a constructive and systemic conception of the universe never conceived by human spirit”.

A conceptual view rooted in the Chaldean culture, but rationally developed by the Greeks in such a degree that O. Neugebauer, the great science historian, referring to the Hellenistic period, tells us [Neu 57] that “compared with religion, magic and mysticism, astrology is pure science”, validating so the *Tetrabiblos* ptolemaic comments on the scientific nature of astrology [Pto 80].

But Ptolemy also states the non-deterministic character of astrology, reminding us (Book I, chapter 3, of his *Tetrabiblos* [Pto 80]) that “we must not think the effects of heavenly bodies upon man destiny as fatal things that cannot be avoided”.

In fact he only witnesses to our consideration the pure concepts of the old astrological lore: in its Chaldean origins, astrology was a divine language informing man about gods’ will, not a corpus of ironclad rules slaving human will.

As we can read in the texts of *Enuma Elish* [Enu 94], willing the gods to rest, man was created to substitute them and do its works, control of Destiny included, having man the heavenly messages, i. e. astrology, as the right way to know their divine wills.

So man is responsible for keeping an harmonic universe and warranting a correct Destiny, being guided, not slaved, by astrology to be successful in these tasks.

It was only stoicism which brought into astrology a hardly deterministic doctrine, not so the best thinkers of Greek, Middle Ages or Renaissance science and/or philosophy [Per 94].

In fact, the traditional, ptolemaic, concept of astrology, was easily integrable in Aristotle’s paradigm of universe, rooted in biology, not in mechanics.

Joined to this philosophical worldview, astrology held its scientific status along the Middle Ages and Renaissance and was only deprived of it with the advent of Rationalism and Illustration, which overthrew astrology of its privileged position.

Catalogued since then as an ‘irrational’, or a ‘superstitious’, or a ‘pseudoscientific’ subject, Neugebauer remember us that it is wrong to dismiss astrology of the ancient world because it heralded the beginning of an orderly methodology as a means of formulating a theory within which all phenomena could be explained [Neu 57].

Really, this is the true aim of science. ¿Why has astrology lost that recognition?. The answer is quite obvious in the light of Kuhn works [Kuh 96]: a new scientific paradigm appeared that confronted and displaced the Aristotle’s one.

Not to mention the philosophical difficulties to precise what is and what is not a science [Cha 82], a subject to which we will return in the next paragraph.

So, astrology, having a much older history than Aristotelian worldview, was not capable of academic survival once its adoptive paradigm lost its conceptual and scientific appeal.

Notwithstanding, the traditional worldview found a refuge in hermetic doctrines and these doctrines fed the deep and powerful thoughts of Leibniz [Ori 02], whose philosophy profits from the old ideas embedded in such doctrines.

Confronted to Descartes' and Newton's positions, Leibniz was capable of rationally develop a bunch of new concepts and proposals rooted in the ancient thoughts present in traditional doctrines (mainly alchemy and astrology), leaving an unvaluable legacy to both the philosophy and the science of the future [Smo 97, Ori 02], as we shall see in the following paragraphs.

2.- Modern science paradigm.

To speak of 'modern science' calls for a double precision: what is 'modern'? and what is 'science'?

It is easy to give an answer to the former question: 'modern', in this context, means 'from XVII-XVIII centuries on, till present days'.

But, as previously advanced, it is a hard task to define what is science, being proverbial the "debates and contrasting perspectives among scientists and philosophers concerning the true nature of science", as stated in the prologue of *What is Science and how it Works* [Der 99], and well known the absence of true criteria to classify a certain knowledge as scientific or not scientific [Cha 82].

This absence motivates assertions as tautological as the following one [Der 99]: "science is what is taught in science books".

Tautological but illuminating, because it is said that "we can't have a valid science with an inbred worldview isolated from the scientific community as a whole" and in order to do science "one must at least have faith in the integrity of one's overall worldview" [Der 99].

But what about this 'overall worldview'? It is based on the existence of the absolute space and the absolute time, two abstract, not empirical, concepts, but supposedly containing in them an atomised, mechanistic reality, observed by a man aside from it, stranger to it.

About that, we can read [Smo 97]: "The fundamental principles in the Newtonian picture of the world was built included the idea that the universe is eternal, that everything is made out of particles which obey absolute and unchanging laws, and that everything in the world can be reduced ultimately to the action of these absolute laws. If this view is correct, then the only truly fundamental science must be the study of what these particles are, and how they move and interact with each other. Everything else, whether it is biology or astronomy, is to be understood ultimately in terms of these fundamental particles and the laws they obey".

Against traditional worldview, the new one, the modern science one, left the universe devoid of intelligence, in-animated, eternally determined and, once entropy was discovered, damned to a disordered death.

Bearing all of that in mind, the restrictive use made of the word 'science' by a great number of modern scientists and authors to mean 'natural science' comes as no surprise, forgetting that, as Bronowsky remembers us [Bro 78], "the understanding of human nature and of the human condition within nature is one of the central themes of science".

But this aim of true science is, obviously, wholly contradictory with the modern science paradigm, the classical physics paradigm: there is no room for man in it nor for its mind, its emotions, its creativity, its life time, its history, its evolution, leaving these subjects to the so called 'soft', second rank, sciences [Alt 86].

Time, real time, was only retaken into account, philosophically and scientifically, along the XIX century [Guz 02], and this interest paved the way to the greatest breakthrough in physics, science and philosophy since Copernicus, to be fired by Einstein and Planck at the beginning of XX century, and opened the door towards a new and more comprehensive worldview [Smo 97], as it will be stressed along the next paragraph.

Before taking these steps, let me comment some more brief points about the so called 'scientific method'.

As we have been told, "science demands that its standardised procedures be adhered to", namely empirical, positivist and reductionist procedures, but we are also told that this 'scientific method' "does not force itself upon human mind either logically necessary nor inevitable. Therefore, it would be fair to call it a convention" [New 00].

And this comment merely states an historical fact [Bar 96]: the commonly named 'scientific method' "was not initially regarded as crucial to obtain knowledge of nature. In fact, Boyle's promotion of this methodology gave rise to vigorous controversy, and (...) Boyle himself explicitly stated that his refutation of Hobbes' physical theories was intended to undermine his religious and political views", and also "before this time the experimental method was associated traditionally with alchemists, and more recently with various 'new' philosophers who used specially designed experimental demonstrations to prove the truth of their preconceived hypothesis".

On the other hand, not few XX century philosophers agree with Feyerabend when he asserts that "there is no one 'scientific method', but there is a great deal of opportunism", defending also that "the fictitious unity of 'science' (namely, modern science) that is supposed to exclude everything else simply does not exist" and stating firmly that "we made conclude that there exists no scientific argument against using or reviving non-scientific views or scientific views that have been tested and found wanting" [Fey 75, Fey 96].

Moreover, it is clear to us today that "what science has been doing for the last 400 or so years is giving a description, not of the universe as a whole, but of small parts of it" [Smo 97].

In fact, "Newton's physics was a great achievement, but it relied heavily on the use of a fixed background and, for this reason, it could never have stood as a theory of a whole universe" [Smo 97].

3.- Towards a new paradigm.

To quote once more Lee Smolin's book *The Life of the Cosmos*, "we live in the ruins left by the overthrow of Newtonian science, trying to make sense of many new discoveries that have grown up suddenly like a lush forest among the scattered stones of an ancient temple" and "a picture is emerging of what this new universe will look like (...) the evidence for this new picture of cosmology comes from several different directions and sources (...) beyond the simple fact that the universe is evolving and changing, we are finding we live in a world that is much more dynamical, much more intricately structured, much more interesting than the previously imagined".

And he follows: "(The Newtonian point of view) has often been opposed because it seems to cheapen life, to make our existence meaningless, to make beauty irrelevant. Of course, these kind of arguments have not mattered much to science, because this view was seemed a necessary underpinning of its momentous progress. But now, at this moment of crisis, it seems that it is exactly this view of things that must be challenged. It is not a question of ethics, or what makes us feel comfortable, this view is no longer working as a science".

And, related to all of that, he writes: "the most basic properties we may imagine an object to possess are its position in space and its existence in time. After the triumph of Einstein's theory of general relativity, these must be seen as meaningful only in the context of the relations of that body to the rest. It can no longer be maintained that the properties of anything in the universe are independent of the existence or non-existence of everything else".

To which we can add the non-local characteristics of the universe at quantum level, as stated by Aspect experimental verification of Bells' theorem but, at the same time, "while the overthrow of Newtonian physics is certainly irreversible, we should avoid the temptation to take quantum mechanics, in its present formulation, too seriously (...) when we speak of the quantum we must be very careful to separate talk of quantum phenomena from talk of quantum theory. Quantum phenomena are real, and are genuinely puzzling. But not all of the idealisations and postulates of the quantum theory may actually correspond to nature" [Smo 97].

At the other hand, “if we keep the focus on the attempt of unify relativity and quantum theory, then we are continually impressed by the fact that each of these are transitional theories. Each radically challenges the Newtonian conception of the universe, but only in part. Each holds unchanged a certain but different part of the classical picture. So the situation is genuinely confused. However, underlying both theories is clearly the move from an absolute, Newtonian picture of nature to a relational, Leibnizian conception. As I will try to argue here, this is the ground on which we may hope to find their ultimate reconciliation and unification” [Smo 97].

Alas, science has, and also has our culture, the opportunity to return, through Leibniz thinking, to the traditional roots.

This opportunity is increased by the growing state of opinion about the most probable foundations of that new scientific paradigm: biology. A perspective which converges with old doctrines: Aristotle’s ancient proposal is also biologically based, a characteristic so valued by Prigogine, one of the XX century greatest scientists and thinkers [Guz 02].

There are also authors which, accounting for the parallelisms and similarities between biological, social and cultural evolutions, defend them as being different aspects of a single and fundamental process: the evolution of nature [Las 77]. Moreover, Smolin’s cosmological theory is also rooted in such an evolutionary thinking [Smo 97].

Time, dynamical aspects of reality, like non-equilibrium thermodynamics, self-structured systems, evolution theories and so on, are at the roots of this emergent scientific paradigm, as it is possible to see in, by example, [Duv 95, Gra 00, Kau 93, Kau 95, Pri 84, Pri 97, Pri 98, Smo 97].

4.- A past with future.

As it is well known, time is the key subject of astrology, the old science of universal cycles.

But the common explanation of the astrological concept of time in a mythical context of unendingly repeated cycles, in an eternal unchangeably universe, is not so straightly acceptable, not in my mind, if we are to be faithful to the conceptual seeds offered by the oldest known roots of astrology.

As previously mentioned, *Enuma Elish*, the old Babilonian poem of Creation, describes Chaldean gods giving a hard task to humankind, an exhausting job, because they were so tired themselves creating that they needed someone to control the universe and the Destiny.

So mankind becomes in charge of Destiny, not a slave of it, and the key question is ‘what for?’. The *Enuma Elish* answer is immediate: to warrant cosmic harmony, to maintain the dynamics of the universe according to “its right rules” [Enu 94], but these right rules are not that of time cancellation (mythical time) but that of real time presence (evolving and creative time), as actual science [Guz 02, Pri 79, Pri 84, Pri 97, Smo 97] and actual astrology are insistently reminding us [Arr 79, Rup 78].

An evolutionary perspective also present, explicit or implicitly, in Ptolemy’s *Tetrabiblos* [Pto 80], where we can read, for example (Book I, chap. 2), about the similarities, but not the identities, of astrological figures and aspects along time.

On the other hand, this ‘opening’ of time cycles is an exact understanding of what astronomical cycles are: three dimensional curves never completely closed.

Indeed they are more or less geocentrically ‘almost’ closed, but not completely closed, so showing continuity gaps that open chances to diversity, newness and, after all, creativity: the very job of gods that mankind, according to *Enuma Elish*, are substituting.

From this deepened, dynamical and evolutionary comprehension, astrology has a great deal of contributions to make in a historical period in which science and western culture are searching for a new paradigm, a new worldview centred in the dynamical characteristics of time, cosmos and mankind, in the evolutionary signature of reality.

This evolutionary perspective, as well as the ecological one (mankind both in narrow interdependence and interaction with its universal, farthest or nearest, surroundings), is inborn to astrology, but wrongly made up by mythical misconceptions of it.

Actually, the primary roots of astrological concepts are that of man and mankind being the ending top of evolution, the finishing element of gods creative effort towering the whole of the universe, having to take in charge its dynamic reality, maintaining its right evolution through their own responsible actuation, namely correct evolution¹, and being guided to do that by the celestial messages conveying them the privileged information offered by heavenly gods to help human success.

And right now it is clear to science that information is not only an essential ingredient to life (“no definition of life could suffice that ignored the role that information and control play in the workings of a living cell” [Smo 97]) but also an evolutionary advantage when linked to our inhabited environment: “a sensitivity to our environment that has doubtless saved us from extinction many times in the past” [Gra 00].

That is why there is a growing number of researches which are not being surprised by the suggestion that our behaviour is linked to environmental influences, and which take into account the reality of biological phased-locked bops “which can be influenced by quite subtle external influences and will really fall into step with any similar periodic changes in its environment”, and accepting that “such a sensitivity to the moods of the planet or of others is something to be astounded rather than offended by” [Gra 00].

Obviously, this is a convergent approach which can (and must) give a chance to astrology, opening it to a future which classical science had stubbornly tried to bury into the past.

But there are more clues to consider information as a promissory nexus between present day science and astrology: information is being associated with structure, space-time structure and order [Sto 90, Vre 96] and it is beginning to be considered (besides mass and energy) as the third fundamental magnitude of the universe [Git 89, Sto 90], and accepted as a physical magnitude [Smo 97].

A quantitative equivalence between the information unity, the bit, and the energy unity, the Joule, has also been proposed [Sto 90] and today there are authors who speak about information as a third order ontology capable of bridging (apparently) disjointed ontological systems [Gop 98].

Moreover, present day science is trying to include the ‘time arrow’, the irreversibility of real time, in its theoretical formulations. But this dynamical arrow is an essential characteristic of our evolving universe, so essential that some scientists are beginning to assign time an undeniable ontological meaning [Guz 02].

But, physically speaking, this time irreversibility emerges from entropy, a physical magnitude that, not surprisingly, is directly linked with information [Abr 66, Sto 90] and is also opening the doors to the emerging new science [Pri 79].

In parallel with all of that, there has been a growing interest among XX century astrologers to take advantage of scientific tools and methodologies to advance in their astrological research.

To name briefly just a small sample of relevant examples, we can remember the great impact of Gauquelin works (see, among many other possible references, [Gau 78, Gau 79a, Gau 79b]) or the new mathematical approach proposed by Addey [Add 76], without forgetting more collective initiatives [Pot 95].

In fact, Gauquelin’s research has been taken as a solid reference by different scientists and scholars to conveniently value the astrological asserts and to open the door to a scientific treatment of them [Eys 82, Sey 90, Wes 92].

A way clearly followed, among others, by Seymour and Fuzeau-Braesch [Elk 98, Fuz 92a, Fuz 92b, Fuz 96, Sey 90].

¹ A perspective today also detectable through the etymology of words like ‘disaster’.

5.- The necessary synthesis.

The last decades of the XX century have seen a progressive approach of some scientists to astrology and of some astrologers to science.

The historical wall, paramount wall, separating modern science and astrology is being more and more eroded by the increasing conceptual contacts between the experts from both sides.

This convergent dynamism ought to lead to a positive reencounter between astrology and science giving birth to a recast overall paradigm, taking into account the most valuable traditional and modern concepts in a new synthetic worldview.

In my mind, we, astrologers and scientists, have some few but consistent elements to accept this credible challenge. I am going to mention some of them.

First of all, let me remind you a phrase previously quoted: “It can no longer be maintained that the properties of anything in the universe are independent of the existence or non-existence of everything else” [Smo 97].

Then, I must mention the symbolic value of astrology [Eys 82]: “astrology is not worse than some psychological techniques such as inkblots, which are widely used although no one pretends that inkblots contain real meaning. In fact astrology can be superior because its concepts have undeniable beauty and appeal, and because taken one at a time are attractively simple”, and also to state that therapists “are finding that astrological concepts can provide a useful framework for exploring and describing persons and situations in understandable and very human terms”.

These benefits “would of course apply whether astrology was objectively true or not” [Eys 82], but it is necessary to point out the convergence of astrology, taking into account the different events through their space-time characteristics, and some Smolin’s statements: “the most basic properties we may imagine an object to possess are its position in space and its existence in time” and “all properties that have to do with space and time must be constructed from relations between things in the world” [Smo 97].

Moreover, modern cosmology tells us that “there is a limit to how much information may be contained inside a given region of space (... and it) is proportional to the area of its boundary” [Smo 97], and we are also told that, after quantum mechanics, if we observe some part of the world, a complete description of ourselves is impossible without incorporating the description of that observed part [Smo 97].

Strikingly enough, astrology relates the relevant space-time information to a closed surface, a sphere surrounding our planet, and uses the information related to the outer observed part of the universe to base its descriptions of the observer, without forgetting to take also into account some complementary (genetic, social, cultural, an so on) information, as the best astrologers in history remind us [Pto 80, Rag 97].

In fact, in spite of its holistic perspective, astrology does not look at the whole universe, mainly limiting its considerations to our solar system and its cycles, but we must remember that “long-range order can be exhibited in an infinite system in which components only interact with their nearest neighbours” [Lon 99] and take into account the existence of both macroscopic, i. e. astronomic [Sey 90]², and microscopic, i. e. quantum entanglement [Smo 97]³, criteria supporting these restricted considerations.

Another point to be considered is the growing scientific will to integrate time, biology and mind, namely man, in the overall paradigm of the universe, as clearly shown by the following quotes.

“We come to a world with an open future, where time plays a constructive role” [Pri 89].

² The existing nexus between planetary cycles, sun magneto-dynamics, solar wind and earth magnetism.

³ The numerous and intense interactions among particles present in the cloud of gas from which our solar system evolved gave rise to, I suggest, privileged and more direct connections among solar system objects.

“The existence of a microscopic formulation which makes explicit the role of irreversible processes and gives an unified image relating many of our observations on physical and biological systems” [Pri 80].

“We are observing the birth of a science that is no longer limited to idealised and simplified situations but reflects the complexity of the real world, a science that views us and our creativity as part of a fundamental trend present at all levels of nature” [Pri 97].

“In Roger’s (Penrose) theory of mind is the idea of mentality as something ontologically fundamental in the Universe” [Lon 99].

In addition, it is worth mentioning the growing academic interest in promoting interdisciplinary activities, and the scholar opening, very little by little certainly, to new perspectives about rationality and irrationality, as shown by the following quote:

“Because there is a gap between things and the images we build of them, we have to be cautious in our use of *rational* and *irrational*. The word *reason* has become as magical as a quality label, investing everything it is attached to with an aura of excellence. Yet the idea that reason is absolute and immutable is merely a doctrine, an obsolete doctrine (...) What seems to us rational today once had to fight for recognition: it was not instantly recognized as such (...) Rationality is a construct (...) rationality can, paradoxically, be built upon the irrationalities that it was first responsible for producing” [Kle 96].

It is also pertinent to stress here the great growth of both chronobiology and the many aspects of natural cycles study, offering us the success of a historical vindication: almost two centuries late, the asserts of Herschel about the relationship between the evolution of the climate, the prices of wheat and the sun spots cycles is being scientifically accepted [Nes 96].

Certainly, there are no small handicaps to be overcome, inside science and also inside astrology, to reach the necessary synthesis of paradigms.

This is clearly reminded to us, among others, by both some opposing astrologers [Neg 94] and Barnes, Bloor and Henry’s comments [Bar 96]: ‘Michel Gauquelin’s statistical evidence in support of astrology would perhaps be a serious embarrassment to scientists if they were not so good at ignoring it. But one day it could conceivably come to be accommodated as a triumph of the scientific method’.

Nobody told us the task was easy. Notwithstanding, it is not only valuable and exciting but also credible and workable.

6.- The catalytic factors.

There are different factors, both cultural and academic, which could help the serious study of astrology and the advent of the new overall paradigm to which I have dedicated the last paragraph. Of course, they must counteract other factors which strengthen the well ingrained and conservative habits of both the scientific and the academic community.

One of them, probably the most negative, and also the most folkloric, is the omnipresent media interest in a lessened and caricatured astrology, to be properly called pseudo-astrology, whose contents are the main target of anti-astrological scientists’ and scholars’ critics (see [Fyn 00], for example).

These media practises try to cover, but misleading it, the popular interest about astrological knowledge, an interest that, if rigorously taken into account, should, in my mind, open the door to approach astrology from different sociological and psycho-sociological perspectives.

In fact, our western contemporaries (astrology is a much more ingrained reality in eastern culture), aside their school degrees, social status, or economic rank, know quite well the signs of the zodiac and also their associated astrological basic typologies: much better than any other psychological, or equivalent, classification.

The search, centred in the present, about the roots of these facts soon ought to be expanded to the past, converging with the undeniable interest and significance of astrology in our history, our philosophy, our science, our culture, in the whole western civilisation indeed, along a lot of millennia.

We have, we should have, here a good bunch of reasons, namely of catalytic factors, to thoroughly explore astrology and its far and wide implications in our past and our present and, implicitly or explicitly, also in our future.

We need to understand it if we intend to understand ourselves, that which requires to study not only the historical perspective of astrology but also all its remaining facets, and specially its conceptual and methodological contents.

It is undeniable that our architecture, our painting, our literature, our philosophy and so on are permeated by a vigorous astrological flood which is waiting for an attentive pursuing taking it into light: an impossible task to be undergone without thoroughly and deeply knowing the evolution of astrology, and that of its concepts and techniques, along the centuries.

Not to mention the impact of astrology on scientific and practical knowledge: namely astronomy, mathematics, navigation, medicine and so on.

In fact, Christian churches have always saved the applied benefits of astrological knowledge, mainly in medicine and navigation, from their anathema.

In my mind, the universities, and we who integrate them, have the great opportunity, the great privilege and so the great responsibility, to lead the necessary, the unavoidable, academic approach to astrology.

The searching for the roots of our own being, namely the deepest passion of Western Mind [Tar 91], and also the characteristic searching for unity and integration of humanism, the most nuclear tradition of European culture [Guz 02], are claiming for it, and we are in the right place, and just at the right time, to proceed.

Moreover, as it is well known, one of the universities' foundational goals and responsibilities is to promote critical thinking. Another one is to dig in our past to offer its treasures to our present. A third one is to lead the progress of knowledge.

The procurement of each and everyone of these goals are very good candidates, perhaps the best ones, to be included in our list of catalytic factors.

And, from my own perspective, it is possible to cover all of them altogether giving a serious academic coverage to astrology.

Fortunately, this scholar interest about the astrological knowledge is not waiting to be started, having gone several steps ahead.

It is obvious here to mention the activities of Sophia Centre at Bath Spa University College [Scb 02], included in a much more ambitious project, the Sophia Project [Spr 01], supported by the Sophia Trust.

Without forgetting the leading initiative of Kepler College about astrological degrees at the beginning of this millennium [Kpc 00].

Not to mention a number of doctoral thesis related to astrology and held at different western universities [Gui 00], and the renewed interest of several universities departments to research on astrological themes.

Besides the universities integrated in the Sophia Project, namely the University of London (Warburg Institute), the University of Southampton, the University of Kent at Canterbury and the Bath Spa University College, its worth mentioning but a testimonial sample of two others.

Namely, the University of Amsterdam [Ams 00], the world's first academic institution that has created a complete programme for research and teaching in the field of western esotericism, and the University of Malaga [Mlg 00], where a program for recovering old astrological bibliography is being held.

There are also professors, or small groups of them, actively working in different universities. The author, as known, full professor of the University of Zaragoza, pertains to one of these groups, which is presently formed by three doctors.

I can also witness about three other Spanish colleagues, all of them full professors at different universities (two of them from Barcelona and the third one from Valencia) regularly working on astrology and having also lectured, as myself, in different astrological conferences.

7.- Conclusions.

There is a growing number of universities around the western world showing an increasing interest in the serious study of astrology.

This fact ought to be, probably, the most important catalyst to recover this traditional knowledge, to understand it in a new light, devoid of misconceptions and prejudices, and to perceive better the historical evolution of our culture, obtaining new perspectives about its past and present dynamics and also about the potentialities of its future.

The potential benefits this approach can offer us are of different kinds.

First of all, a renewed comprehension of both the universe and the place of mankind in it, taking some new perceptions about its evolutionary processes and about how they are pushing us towards our own future.

These new thoughts would help to construct the nowadays emergent overall scientific paradigm having its roots deeply slipped in human reality and giving it the holistic consistency associated with man-cosmos interdependence.

This constructive, systemic and evolutionary approach would lead to an organic integration of physics, biology, psychology and sociology, taking advantage of symbolic, i. e. informational, capabilities of astrology.

An astrological knowledge to be conveniently actualised, modernised and returned to its roots, eliminating from it the debasements, distortions and deformities caused by past centuries of scientific and academic dispraise and scorn, religious anathema and cultural abandon.

The old times princess, and modern Cinderella, is claiming for a new role in our culture, perhaps the role of our wiser counsellor, capable of giving us the companion of the whole universe in its pushing of our personal and collective developments and, at the same time, its own thorough evolution.

Perhaps the most important lesson to be learned by us, human beings, from astrology is our common future with the cosmos, our inextricable solidarity, interdependence, history with it, may be he/she, and to accept its almost cyclical remarks to remind us the right dynamics of our common evolution.

In my mind, it is time to give way to those old ideas about man dammed to be slaved by an ironclad universe, or on the contrary, to our proud pretension of becoming the uncompromised and unconditioned masters of our universe.

Commonality, solidarity, interdependence, here it is, in my mind, the most valuable teaching of that old wise knowledge called astrology.

Bibliography:

- Abr 66.- N. Abramson. *Information Theory and Coding*. Mc Graw - Hill, New York, 1966.
- Add 76.- J. M. Addey. *Harmonics in Astrology*. Fowler, Romford (UK), 1976.
- Alt 86- H. Altman. *À Tort et à Raison. Intercritique de la Science et du Mythe*. Le Seuil, Paris, 1986.
- Ams 00.- <http://www.amsterdamhermetica.com/>
- Arr 79.- S. Arroyo. *Astrology, Psychology and the Four Elements*. CRCS, Vancouver (USA), 1979.

- Bar 96.- B. Barnes, D. Bloor & J. Henry. *Scientific Knowledge. A Sociological Analysis*. Athlone, London, 1996.
- Bro 78.- J. Bronowski. *A Sense of the Future*. MIT Press, Cambridge (USA), 1978.
- Cha 82.- A. F. Chalmers. *What is this Thing called Science?*. University of Queensland Press, St. Lucia (Australia), 1982.
- Der 99.- G. N. Derry. *What Science is and How it Works*. Princeton University Press, Princeton, 1999.
- Duv 95.- C. de Duve. *Vital Dust. Life as a Cosmic Imperative*. Basic Books, New York, 1995.
- Elk 98.- B. Elko. "The Magus of Magnetism: An Interview with Dr. Percy Seymour". *The Mountain Astrologer*, nº 80, August/September 1998.
- Enu 94.- *Enuma Elish*. Trotta, Madrid, 1994.
- Eys 82.- H. J. Eysenck & D. K. B. Nias. *Astrology: Science or Superstition?*. Temple Smith, London, 1982.
- Fey 75.- P. K. Feyerabend. *Against Method*. New Left Books, London, 1975.
- Fey 96.- P. K. Feyerabend. *Farewell to Reason*. Verso, London, 1996.
- Fuz 92a.- S. Fuzeau-Braesch. "An Empirical Study of an Astrological Hypothesis in a Twin Population". *Person. Individ. Diff.*, vol. 13, nº 10, pp. 1135-1144, 1992.
- Fuz 92b.- S. Fuzeau-Braesch. *Astrologie: la Preuve par Deux*. Laffont, Paris, 1992.
- Fuz 96.- S. Fuzeau-Braesch. *Pour l'Astrologie. Réflexions d'une Scientifique*. Michel, Paris, 1996.
- Fyn 00.- R. P. Feynman. *The Pleasure of Finding Things Out*. The Penguin Press, London, 2000.
- Gau 78.- M. Gauquelin. *Cosmic Influences in Human Behaviour*. ASI, Nueva York, 1978.
- Gau 79a.- M. Gauquelin & F. Gauquelin. "Star US Sportmen display Mars Effects". *Skeptical Inquirer*, Winter 1979.
- Gau 79b.- M. Gauquelin, F. Gauquelin & S. B. G. Eysenck. "Personality and Position of the Planets at Birth: an Empirical Study". *British Journal of Social and Clinical Psychology*, nº 18, pp. 71-75, 1979.
- Git 89.- W. Gitt. "Information: The Third Fundamental Quantity". *Siemens Review*, 6/1989, pp. 36-41.
- Gop 98.- A. Goppold. "Information and Third Order Ontology". *BioSystems*, 48 (1, 2), pp. 169-173, 1998.
- Gra 00.- S. Grand. *Creation. Life and how to Make it*. Weindenfeld & Nicholson. London, 2000.
- Gui 00.- P. Guinard. "L'astrologie (et l'épi-astrologie) à l'université: Un siècle de thèses doctorales". <http://cura.free.fr/01authd.html>
- Guz 02.- J. L. Guzón. *El Nuevo Estatuto del Tiempo. Introducción al estudio del concepto del tiempo en Ilya Prigogine*. Universidad Pontificia de Salamanca, Salamanca, 2002.
- Kau 93.- S. Kauffman. *Origins of Order: Self-Organization and Selection in Evolution*. Oxford University Press, Oxford, 1993.
- Kau 95.- S. Kauffman. *At Home in the Universe. The Search for Laws of Self-Organization and Complexity*. Oxford University Press, Oxford, 1995.
- Kle 96.- E. Klein. *Conversations with the Sphinx. Paradoxes in Physics*. Souvenir Press, London, 1996.
- Kna 88.- W. Knappich. *Geshichte der Astrologie*. Klostermann, Frankfurt, 1988.
- Kpc 00.- <http://www.kepler.edu/index.html>
- Kuh 96.- T. S. Kuhn. *The Structure of Scientific Revolutions*. The University of Chicago Press, Chicago, 1996.

- Las 77.- E. Laszlo. "Mankind in Transition: the Evolution of Global Society", in E. Laszlo & J. Biermann (eds.). Pergamon Press, 1977, as quoted in [Guz 02].
- Lon 99.- M. Longair (ed.). *The Large, the Small and the Human Mind*. Cambridge University Press, Cambridge, 1999.
- Mlg 00.- http://www.webdeptos.uma.es/dep_griego/ASTROLOGIA.htm
- Neg 94.- A. Nègre. *Entre Science et Astrologie*. S. P. M., París, 1994.
- Nes 96.- E. Nesme-Ribes, S. L. Baliunas y D. Sokoloff. "La Dinamo Estelar". *Investigación y Ciencia*, Oct. 1996, pp. 12-19.
- Neu 57.- O. Neugebauer. *The Exact Sciences in Antiquity*. Providence, 1957.
- New 00.- R. G. Newton. *The Truth of Science. Physical Theories and Reality*. Harvard University Press, Cambridge (USA), 2000.
- Ori 02.- B. Ori. *Leibniz y el Pensamiento Hermético* (2 vols.). Universidad Politécnica de Valencia, Valencia, 2002.
- Per 94.- A. Pérez (ed.). *Astronomía y Astrología. De los Orígenes al Renacimiento*. Ediciones Clásicas, Madrid, 1994.
- Pot 95.- M. Pottenger (ed.). *Astrological Research Methods* (2 vols.). ISAR, Los Angeles, 1995.
- Pri 79.- I. Prigogine. *La Nouvelle Alliance*. Gallimard, Paris, 1979.
- Pri 80.- I. Prigogine. *From Being to Becoming. Time and Complexity in the Physical Sciences*. Freeman, San Francisco, 1980.
- Pri 84.- I. Prigogine. *Order out of Chaos. Man's New Dialogue with Nature*. Bantam, New York, 1984.
- Pri 97.- I. Prigogine. *The End of Certainty. Time, Chaos and the New Laws of Nature*. The Free Press, New York, 1997.
- Pri 98.- I. Prigogine. *El Nacimiento del Tiempo*. Tusquets, Barcelona, 1998.
- Pto 80.- C. Ptolomeo. *Tetrabiblos*. Barath, Madrid, 1980.
- Rag 97.- A. ben Ragel. *El Libro Conplido en los Iudizios de las Estrellas*. Gracentro, Valencia, 1997.
- Rup 78.- A. Ruperti. *Cycles of Becoming. The Planetary Pattern of Growth*. CRCS, Reno (USA), 1978.
- Scb 02.- <http://www.bathspa.ac.uk/school-of-historical-and-cultural-studies/the-sophia-centre/>
- Sey 90.- P. Seymour. *Astrology. The Evidence of Science*. Arkana, London, 1990.
- Smo 97.- L. Smolin. *The Life of the Cosmos*. Oxford University Press, New York, 1997.
- Spr 01.- <http://www.sophia-project.org.uk/>
- Sto 90.- T. Stonier. *Information and The Internal Structure of the Universe. (An Exploration into Information Physics)*. Springer-Verlag, London, 1990.
- Tar 91.- R. Tarnas. *The Passion of the Western Mind*. Harmony, New York, 1991.
- Vre 96.- J. K. de Vree. "A Note on Information, Order, Stability and Adaptability". *BioSystems*, nº 38, pp. 221-227, 1996.
- Wes 92.- J. A. West. *The Case for Astrology*. Arkana Books, London, 1992.