Astro-Sociology - the physical universe as a reflection of consciousness

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This paper proposes a groundbreaking paradigm: the universe is a reflection of consciousness. Nearly a century ago, quantum mechanics introduced the concept of the observer to explain experimental anomalies. This led many prominent physicists to argue that consciousness is fundamental and precedes matter. While this idea was subsequently marginalized within physics, I contend that consciousness is essential for a comprehensive understanding of the universe.

To support this notion, this paper presents extensive evidence for consciousness from physical processes and astronomical objects. In addition, the Astro-Sociology model, which I introduced in 2010, posits that the universe reflects consciousness. This paper revisits and expands upon the remarkable structural and numerical parallels between astronomical phenomena and human behavior. It subsequently outlines six predictions of the model that have been empirically or theoretically confirmed. Finally, it briefly discusses ongoing research, including a novel quantum gravity model, that incorporates the observer to explain dark matter and dark energy without requiring additional particles.

Frontier Research in Astrophysics – IV (FRAPWS2024)
9-14 September 2024
Mondello, Palermo, Italy

ISSN 1824-8039 . Published by SISSA Medialab.

1. Introduction - the evidence of consciousness in physics

1.1 Quantum physics

The role of consciousness in quantum theory has been a topic of discussion for nearly a century. Pioneering physicists and Nobel Prize winners like Max Planck, Eugene Wigner, and Roger Penrose have emphasized the significance of the observer in shaping experimental outcomes. Planck famously stated, "I regard consciousness as fundamental. **I regard matter as derivative from consciousness**." Wigner concurred, asserting that the laws of quantum mechanics cannot be fully formulated without considering consciousness. Penrose echoed this sentiment, assuming that consciousness is the very essence of the universe's existence.

Figure 1 visually represents this concept. It depicts the photographer's shadow influencing the photograph, analogous to the observer's impact on quantum experiments. This picture, along with most other illustrations in this work, was generated using the Gemini artificial intelligence (AI) engine [1].

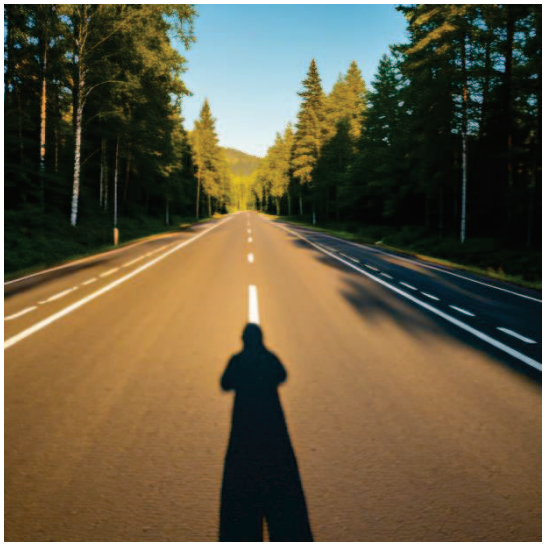

Fig. 1 This image displays the photographer's shadow, serving as a visual metaphor for the observer's influence on experimental outcomes in quantum physics. Just as the photographer's presence affects the photograph, so too does the observer's awareness impact quantum events.

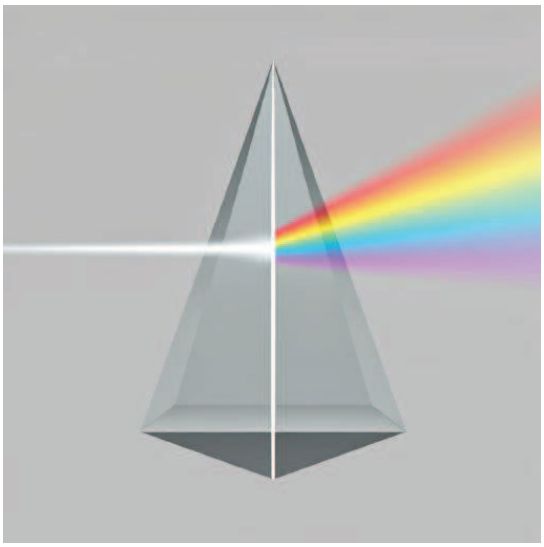

Fig. 2 An illustration of the refraction of white light into its constituent colors when it passes through a prism. The resulting spectrum showcases the beautiful rainbow hues.

1.2 **Vacuum fluctuations and particle-antiparticle pairs**

Quantum field theory predicts the spontaneous creation and annihilation of particle-antiparticle pairs from the vacuum, which is known as vacuum fluctuations [e.g. 2]. This phenomenon supports the idea that the source of existence is formless and colorless, and that particles represent manifestations of this underlying void.

1.3 Refracted light in a prism

When white light passes through a prism, it is refracted into its component colors [e.g. 3], as desplays in Figure 2. This phenomenon suggests a fundamental unity underlying the diversity of colors. The source of light, devoid of color or shape, manifests itself in various hues, reflecting the unique qualities and contributions of individuals to the world.

1.4 The collapse of the wave function

In quantum mechanics, the wave function, representing the probability distribution of a particle's location, is initially spread out across the entire universe. Measurement collapses it to a specific location [e.g. 4]. This aligns with the idea of a single consciousness that transcends spacetime, with measurements identifying particles with specific locations within it.

1.5 The limitless reach of gravity

Isaac Newton's formulation of gravity [5] highlights its infinite range, implying a universal interconnectedness. The gravitational force exerts its influence across vast distances, proposing a deeper underlying unity.

1.6 Quantum entanglement

Quantum entanglement [e.g. 6], a phenomenon where two distant particles become interconnected, provides further evidence for the role of consciousness. How can information be instantaneously transmitted between these particles, seemingly violating the speed of light? This suggests a fundamental connection between all particles in the universe.

1.7 The singularity in black and white holes

The singularity, a theoretical concept representing a point of infinite density within black holes [e.g. 7], and potentially the source of matter in hypothetical white holes [e.g. 8], presents a profound enigma. How can matter be compressed into an infinitesimally small point or ejected from nothingness? This phenomenon hints at the existence of something primordial beyond matter, often referred to as God, Nature, consciousness, the singularity, the observer, the absolute, presence etc.

1.8 The singularity in the Big Bang

The origin of the universe in the Big Bang [e.g. 9] remains a serious mystery. Did the entire cosmos emerge from a single point in spacetime? Or does this suggest the existence of something beyond matter, perhaps consciousness, as Max Planck proposed [Section 1.1]?

1.9 A Single particle universe

The physics of a universe containing only one particle has been explored [10]. In such a universe, concepts like distance, motion, velocity, energy, space, and time lose their meaning. Only when there are at least two particles can these physical quantities be defined. However, the very act of defining these quantities implies an interconnectedness between the particles, suggesting that they are not truly separate. Otherwise, each particle exists in its own universe.

1.10 The universe is dead except for you

Astronomers recognize that observed light represents the past. Photons emitted from distant stars or galaxies may have originated millennia, millions, or billions of years ago. Consequently, the universe, as observed, is essentially a historical record. Even when watching nearby objects or people, there is a small time delay between emission and reception due to the finite speed of light.

Therefore, the only point that actually lives is consciousness, which manifests itself by you, the observer, here and now. This is a fundamental principle emphasized by spiritual teachers and is true for any observer.

1.11 Here and now is the singularity

A simple thought experiment can illustrate the concept of something beyond spacetime. Each of us is perpetually anchored in the "here and now." It's impossible to escape this singular point in time and space. While consciousness is eternal, its manifestations are, however, temporal. Only by defining location and time can separation be apparently created, giving rise to the illusion of a virtual unconnected world. Then we can be in New York today and travel to Amsterdam tomorrow, but for any observer, the experience remains firmly rooted in the "here and now." This "here and now" is the true center or singularity of our perception.

1.12 The term Uni-verse

The word 'universe' is composed of two parts: 'uni' meaning 'united' and 'verse' signifying 'colors.' This suggests a unified source that manifests itself in diverse forms, akin to how refracted light reveals a single source through its various colors (subsection 1.2 and Fig. 2).

Additionally, the Hebrew term for 'universe,' 'יקום' (yekum), literally means 'wake up!' In a religious interpretation, the letter 'י' (yod) represents God, and 'קום' (kum) means 'rise!' (imperative). This proposes a divine call for awakening and interconnectedness. Interestingly, the word 'Italy' can be interpreted as 'I Totally Love You,' reflecting the fundamental love that connects all things."

1.13 A final note on consciousness in physics

The preceding subsections 1.1-1.11 have highlighted various physical phenomena suggesting an underlying interconnectedness of the universe through something beyond matter: consciousness. It was also shown that even the term universe itself has a deep meaning that supports this perception (subsection 1.12).

The study of consciousness is a rapidly growing interdisciplinary field with a wide range of research topics. For a comprehensive review of scientific research on consciousness, including physical studies, please refer to [11].

Numerous annual conferences focus on consciousness, such as TSC: The Study of Consciousness (organized by the University of Arizona) [12], meetings held by the Association for Mathematical Consciousness Science (AMCS) [13], the Association for the Scientific Study of Consciousness (ASSC) [14], and previously Science and Nonduality (SAND) [15].

2. The Astro-Sociology model – the connection between stars and people

As Albert Einstein famously stated, "If at first the idea is not absurd, then there is no hope for it." The concepts presented in this work may initially seem unconventional or even ridiculous, but please consider Einstein's wise words and keep an open mind about the following ideas.

Astro-Sociology, like Quantum Physics, recognizes the interconnectedness of the universe. There is no separation between the observer and the observed. Therefore, we can expect connections between stars, astronomical objects and events, and people, human behavior and social phenomena. The universe is viewed as a reflection of consciousness, as demonstrated in Figure 3.

Fig. 3 This image illustrates the concept of the universe as a reflection of the conscious observer.

Fig. 4 This collage visually compares an accretion disk to a fat man. In both cases, material accumulates at the central part.

2.1 A structural and qualitative resemblance between people and stars

As first proposed in 2010 [16,17] and later elaborated in 2013 [18], there is a striking resemblance between people and stars. Just as the fundamental unit in human society is the individual, the primary element in astronomy is the star.

In terms of grouping, people tend to congregate in villages, cities, and countries, while stars gather in clusters, galaxies, and galaxy clusters.

Regarding age, there are young people, analogous to young stars, which are generally more active than older stars. Similarly, old people correspond to white dwarfs, neutron stars, and black holes, which are less active than young stars. These older astronomical objects can, however, become more energetic when interacting with young companions, as seen in example in low-mass X-ray binaries [e.g. 19].

Just as people consume food, single stars, binary systems, and even galaxies accrete material through accretion disks [e.g. 20-22]. The accompanying collage (Figure 4) illustrates this similarity between a fat man and an accretion disk, both of which involve the accumulation of matter at a central point.

2.2 Gender and families

In humans, there are men and women. Similarly, in astronomy, we have cold and hot stars, and many stars are found in binary systems. Some stars are even part of triple or multiple systems [e.g. 23].

Human children are categorized as boys or girls, while the astronomical equivalent is planets, often divided into gas planets like Jupiter and solid, Earth-like planets. Note that like stars planets accrete mass by planetesimal accretion.

A family consists of parents and children. A binary stellar system can also include a planet or multiple planets orbiting one or both stars [24]. Figure 5 compares a family with a child to a binary system with a single planet.

Fig. 5 This image visually demonstrates the correlation between a pair of parents with a child and a binary system with a single planet. The collage combines two free images [25].

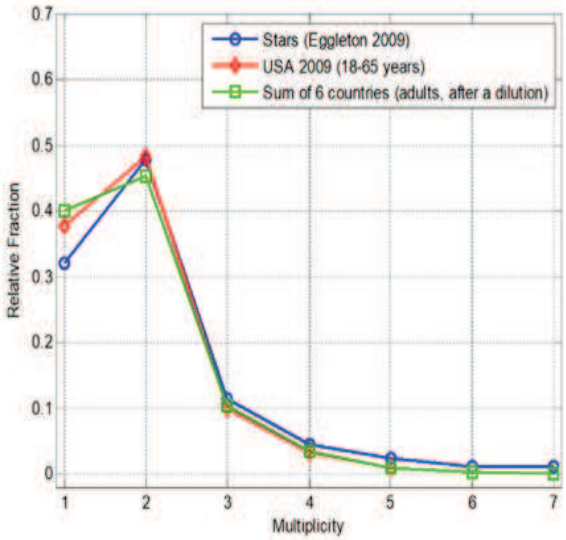

Fig. 6 This figure exhibits the distributions of stellar multiples, American adults in households and adults in a combined sample of six countries [18]. The striking similarity between the distributions is noteworthy. Numerical simulations indicated a greater than 99.9% significance in the connection between people and Astronomy [16-18]. (see also text and Fig. 7).

2.3 Encounters and outcomes

Simulations conducted by Prof. Steve McMillan from Drexel University, USA [26], examined the interactions between a single star and a binary system. These simulations identified four potential outcomes, mirroring human relationships:

- No Change: The original binary system remains intact.
- Destruction: The binary system is disrupted, resulting in three single stars, like a divorce.
- Interchange: The binary system undergoes a separation, and a new pair is formed in analogy to a divorce and marriage in people.
- A Triplet formation: creating a triple system.

The resemblance to humanity is clear and stricking.

2.4 Numerical similarity between people and stars

The resemblance between people and stars extends beyond structure and quality to numerical quantities. Due to limited global population data, individual countries were analyzed. The United States, with its comprehensive available data, was found to represent a larger sample when compared to a sum of six countries [18].

Figure 6 presents the distribution of stellar multiples and human households in 2009 for the United States and a combined sample of six countries [18]. The x-axis represents multiplicity, and the y-axis indicates the proportion of all systems. The integral of each curve is 1 or 100%.

In the large stellar sample examined, approximately 32% of stars are single, 48% are binary, 11% are triple, and the frequency of higher multiples rapidly decreases to near zero [23]. For the United States, the corresponding values are strikingly similar at 38%, 48%, and 10% [18].

The multiplicity distribution of planets (till February 2010) and American children is displayed in Figure 7. The x-axis represents the average number of planets in stellar systems and children in families, while the y-axis indicates the relative proportion within all systems in each group. While there is a resemblance between the curves, the statistical analysis of planets is limited due to the relatively small sample of known planets in 2010 (391 gas and 39 solid planets) [16,17].

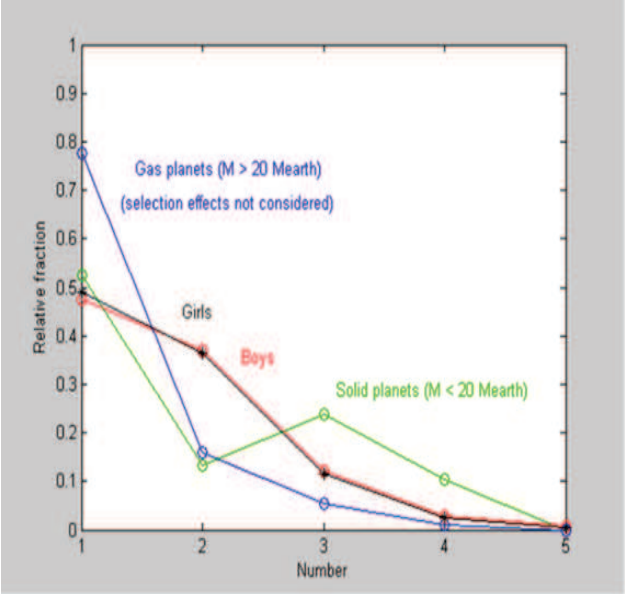

Fig. 7 This figure compares the distributions of boys and girls in US families in 2009 with the number of Jovian gas and solid Earth-like planets around host stars [16,17]. There is some resemblance between the distributions. The difference between the curves of boys/girls and gas/solid planets may be attributed to observational selection effects in planet searches. In addition, the distribution of solid planets in 2009 was clearly limited by sparse data [16,17]. See text for further details.

Extensive Monte-Carlo simulations were conducted to assess the statistical significance of the results. These simulations concluded that the connection between people and stars (shown in Fig. 6) is greater than 98% significant. When considering the additional connection between children and planets (Fig. 7), the significance level increases to over 99.9% [16-18].

Table 1 summarizes the key analogies between stars and people. It is important to note that the similarities extend far beyond those presented in this table [16-18].

Table 1 - A summary of the analogy between people and stars

	Human society	**Astronomy**
Object		
Individuals	Adults	Stars
Gender	Men and women	Cool and hot stars
Descendants	Children	Planets
Gender	Boys and girls	Gas and solid planets
Family	Parents and children	Binary stars and planets
Concentrations	Villages, cities, countries…	Clusters, galaxies, clusters of galaxies…
Orphan children	Orphan children	Free-floating / rogue planets [27]
Adopted children	Adopted children	Adopted planets [28]
Twin children	Twin children	Co-orbital / trojan planets [29,30]
Properties		
Age	Young people - active	Young stars - active
	Elderly – less active	White dwarfs, neutron stars, black holes – less active
Coupling	Singles, couples, triples…	Single / Binary / triple… stars
Affair	Affair	Scattering of a binary system by a third star with no change
Divorce	Divorce	Scattering of a binary system by a third star and the formation of a new binary
Food	Eating	Mass accretion, planetesimal accretion
Accumulation	Belly (at center)	Accretion disk (at center)
Numeric similarities		
Mean adult members in household	1.9 - mean number of adults in USA households [18]	2.0 - estimated mean multiplicity in stars (based on observations) [23]
Adults distribution in household	Distribution of adults number in household (Fig. 6)	Distribution of stellar multiples (Fig. 6)
Distribution of children number in family	Distribution of children number in family (Fig. 7)	Distribution of planets number in stellar system (Fig. 7)
Mean number of children in families with girls	1.9 - mean number of children in families with girls [16,17]	2.0 - mean number of planets in stellar systems with solid planets [16,17]
Mean number of girls in families with girls	1.4 - mean number of girls in families with girls [16,17]	1.4 - mean number of solid planets in parent stars with solid planets [16,17]
Ratio of families with children living with them	0.30 - Ratio of families with children living with them [16,17]	0.31 ± 0.07 or 0.25 ± 0.05 - ratio of stellar systems with detected planets [31]
Children in single parent families with women compared with single parent families with men	More children in single parent families with women compared with single parent families with men [16,17]	More planets in hot parent stellar systems compared with cold stellar systems [31]

3. Six Verified Predictions of the Astro-Sociology Model

A sound physical theory should generate testable predictions. Confirmation of these predictions strengthens the theory and increases its acceptance within the scientific community. The Astro-Sociology model has offered several dozen predictions [16-18]. Its approach is straightforward: examining human behavior and inferring analogous phenomena in astronomy.

A simple prediction is that there should be approximately two planets per system, mirroring the average of 1.9 children per American family [16,17]. Another prediction suggests that the average number of gas Jupiter-like planets in a stellar system should be similar to the mean number of solid Earth-like planets, reflecting the comparable numbers of boys and girls in American families [16, 17].

The initial data were inconsistent with these predictions, with fewer solid planets discovered than expected. This discrepancy can be attributed to observational biases. The Earth's mass is only a minor fraction (about 1/300) of Jupiter's mass, reflecting the significant mass difference between solid and gas planets. Hence, the detection of solid planets is much more challenging, leading to underestimation [16,17].

By assuming that all massive planets in systems with known solid planets have been found, the predicted values align with observations. The average number of planets in these systems is calculated as 2.0, consistent with the 1.9 average in families. Additionally, the mean number of solid planets in systems with solid planets is 1.4, closely matching the average number of girls in families with girls [16,17].

3.1 Structural confirmed predictions

Over time, several predictions of the Astro-Sociology model have been confirmed. The model suggests the existence of orphan planets (without a parent star), adopted planets (that migrate between systems), and twin planets (sharing a similar distance from their parent star) [16, 17].

Orphan planets, also known as free-floating or rogue planets, have been found [e.g. 27]. Adopted planets have been proposed to explain the different rotational directions of the outer planet in certain stellar systems with multiple planets compared with the inner planet [e.g. 28]. Twin planets, also referred to as co-orbital or trojan exoplanets, have been theoretically suggested and there are very strong observational candidates [e.g. 29, 30].

3.2 Numerical verified predictions

Three numerical predictions have also been validated: approximately two planets per stellar system, planets in around 30% of systems, and a higher frequency of planets (children) around hot parent stars (women) compared to cold stars (men) [16,17].

A study [31] estimated the overall planet frequency as 1.9 ± 0.5, consistent with the predicted 2.0. The frequency of planets around FGK stars was estimated to be 0.31 ± 0.07 or 0.25 ± 0.05, aligning with the predicted value of 0.30. Finally, the research found a lower frequency of Jupiters and super-Jupiters around M stars compared to FGK stars, verifying the third prediction.

Table 1 above also lists the confirmed predictions between stars and people.

4. A Challenge for you

The results presented in this work were based on planetary data available in 2010, when only around 400 exoplanets were known [16,17]. As of late 2024, the number of detected planets has exceeded 5,500, with thousands more candidates [24]. With this much larger sample, the findings concluded from the Astro-Sociology model could become even more significant. I encourage anyone interested in these ideas to test them using the latest data.

5. Novel ideas in the field of physics and consciousness

It is a pleasure to highlight three groundbreaking works in progress that further support the evidence of unity in physics displayed in this paper.

5.1 The reflection model

Roi Lotan Glazer has developed a new model that begins with a single source and explores its reflections [32]. This model derives most fundamental physical equations, sometimes with corrections, and offers numerous new predictions.

5.2 Celestial music

Arturo Cuscó has discovered remarkable correlations between the diameters of our solar system's electromagnetic celestial spheres and bioelectric rhythms, especially the brainwave spectrum but also others, such as heart rhythms. The initial findings were summarized in the book "Celestial Music: Mind, Sentience & Divine Tales" [33], and a second book with more exciting discoveries is planned.

5.3 A gravity model incorporating consciousness

As Albert Einstein once said, "You cannot solve a problem from the same level of consciousness that created it."

Gravity appears to break down at large distances, and observed matter accounts for only about 5% of the gravitational force involved in galactic motion. To explain the remaining 95%, scientists have postulated the existence of dark matter and dark energy. Despite extensive efforts, no new particles constituting dark matter or dark energy have been discovered to date [e.g. 34-36].

Over the past 18 years, I have been working on a new quantum gravity theory, that incorporates consciousness to explain dark matter and dark energy. According to this model, the observer (any observer!), located at the center of the universe, perceives it from the singularity. This 3D model, with its equations and predictions, offers a compelling explanation for dark matter and dark energy. While the model is not yet complete, further work is underway.

Figure 8 provides a schematic representation of the model. The observer is positioned at the singularity at the center of the torus. The universe appears to emanate from the observer, who receives returning reflections from masses. The nearby universe, marked in green, is observed and represents ordinary matter. Approximately two-thirds of the cosmos, marked in blue, are obscured to the observer and constitute dark energy. The remaining universe, marked in red, is partially seen and accounts for dark matter. The two white curves form a 3D slice of the apple-like universe, where actual forces can be formulated and tested. The details of this model will be described elsewhere.

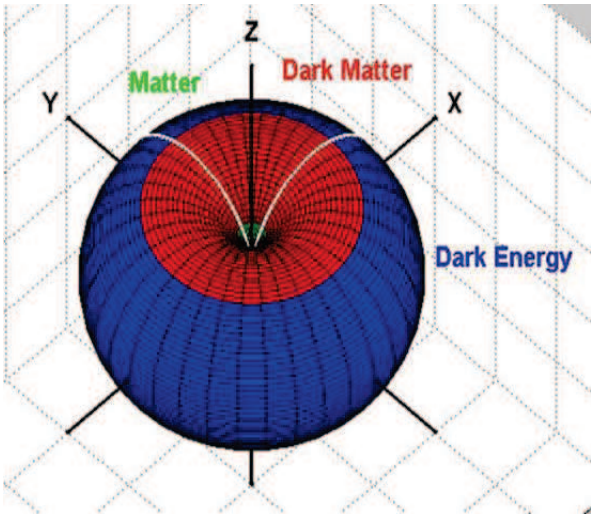

Fig. 8 This schematic diagram illustrates the new quantum gravity model. The observer, located at the center of the torus, perceives the universe from the singularity. He receives reflections from masses, representing matter, dark matter, and dark energy, which are respectively designated in green, red, and blue. The two white curves cut a 3D slice of the universe, where forces can be analyzed and calculated.

5.4 A call for help

I would like to take this opportunity to request funding for this project, which has significant implications for humanity by providing a scientific proof that all people have a common origin and are interconnected.

6. A final illuminating summary

Astronomy offers a profound analogy to life. When we are in darkness, we observe the universe and see an enormous number of stars (Figure 9), symbolizing detachment. When we are awake, we realize a single source, the sun (Figure 10), and understand our interconnectedness.

Fig. 9 The astronomical skies, filled with countless stars, represent detachment when viewed in darkness.

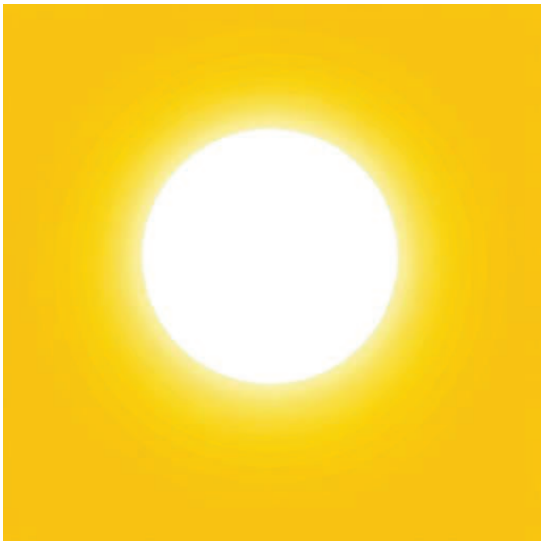

Fig. 10 In light we see a single source – the sun – that demonstrates unity.

Acknowledgments

I am deeply grateful to my first spiritual Advaita teacher, Karter (Shlomo Heller), who introduced me to the insightful non-dualistic perspective that informs this work and for a few valuable comments on an early version of it. I would like to express my sincere gratitude to the organizing committee of the " Frontier Research in Astrophysics - IV" workshop in Mondello, Palermo, and especially to Prof. Franco Giovannelli, for their courage in inviting me to present a talk on consciousness at this scientific event. I acknowledge the valuable assistance of Dr. Valery Heiman in creating Fig. 8. I would also like to thank the developers of the Gemini AI engine, which was used to generate most images in this work and to improve the text, as well as the Stockcake free images site, from which two image**s** were taken for the collage in Fig. 5. My beloved partner, Alla Novosad, is acknowledged for some help preparing the images.

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