Concordant Deviance: Commonalties of Unidentified Anomalous Phenomena (UAP) and Psi Phenomena

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Abstract – In recent years, the public and academic acceptance of studies concerning UFOs (unidentified flying objects), or UAP (unidentified anomalous phenomena), has drastically increased. Only 20 years ago, it was virtually impossible to discuss UAP in a scientific context. Today, top-tier media report about UAP in respectable terminology and scientific research projects with the aim to study UAP have been installed even at universities. In the first part of this paper, I recapitulate major events that indicate this attitude change. In the second part, I highlight similarities that UAP share with phenomena traditionally studied in parapsychology. Numerous authors have already stressed that these aspects of UAP need to be taken into account in attempts to understand what UAP are and how they operate. In the third part, I discuss how parapsychology could profit from the recent attitude change concerning UAP and factors that advanced its progress. In the fourth part, I finally speculate about theoretical models that could serve as a starting point for developing a deeper understanding of UAP and parapsychological phenomena alike.

Keywords: Unidentified flying objects (UFOs) – unidentified anomalous phenomena (UAP) – parapsychology – psi phenomena – theory building

Übereinstimmende Abweichung: Gemeinsamkeiten von nicht identifizierten anomalen Phänomenen (UAP) und Psi-Phänomenen

Zusammenfassung – In den letzten Jahren hat die öffentliche und akademische Akzeptanz von Studien zu UFOs (unidentifizierte Flugobjekte) oder UAP (unidentifizierte anomale Phänomene) drastisch zugenommen. Noch vor 20 Jahren war es praktisch unmöglich, UAP in einem wissenschaftlichen Kontext zu diskutieren. Heutzutage berichten hochangesehene Medien in seriöser Terminologie über UAP und es wurden sogar wissenschaftliche Forschungsprojekte an Universitäten initiiert, um UAP zu untersuchen. Im ersten Teil dieses Aufsatzes rekapituliere ich wichtige

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Ereignisse, die diesen Einstellungswandel kennzeichnen. Im zweiten Teil hebe ich Ähnlichkeiten hervor, die UAP mit Phänomenen aufweisen, die traditionell im Rahmen der Parapsychologie untersucht werden. Zahlreiche Autoren haben bereits betont, dass diese Aspekte von UAP berücksichtigt werden müssen, um zu verstehen, was UAP sind und wie sie funktionieren. Im dritten Teil diskutiere ich, wie die Parapsychologie von diesem Einstellungswandel gegenüber UAP und den Faktoren, die seinen Fortschritt vorangebracht haben, profitieren könnte. Im vierten Teil spekuliere ich schließlich über theoretische Modelle, die als Ausgangspunkt für die Entwicklung eines tieferen Verständnisses von UAP und parapsychologischen Phänomenen gleichermaßen dienen könnten.

Schlüsselbegriffe: Unidentifizierte Flugobjekte (UFOs) – Unidentifizierte anomale Phänomene (UAP) – Parapsychologie – Psi-Phänomene – Theoriebildung

The Recent Attitude Change Concerning "Unidentified Anomalous Phenomena" (UAP)

"UFOs exist and everyone needs to adjust to that fact"

Daniel W. Drezner, 2019

This quote of Prof. Daniel W. Drezner, the headline of an influential article published in the *Washington Post* on May 28, 2019, is symptomatic for a drastic change that has occurred during recent years with regard to the discourse concerning the UFO phenomenon. In especially the USA, the conjecture that there is really something happening in our skies that defies a "normal" explanation in terms of currently accepted scientific theories is discussed in a fairly neutral, constructive and respectful manner among politicians, military personnel, and in the media. It is often regarded as an established fact. This stands in sharp contrast to previous decades during which the UFO phenomenon and people who reported having seen a UFO have constantly been ridiculed and disrespected virtually everywhere. The recent attitude change regarding UAP virtually represents a paradigm shift. However, before I delve into some aspects of this attitude change in more detail, highlight interrelations between UFO and parapsychological phenomena, and muse about what parapsychologists could perhaps learn from this attitude change, a note on how I use the terms "UFO" and "UAP" in the following is apt.

Note on terminology: In many recent discussions, the acronym UFO in the sense of "unidentified flying object" has first been replaced by the acronym UAP in the sense of "unidentified aerial phenomena", and later, in the sense of "unidentified anomalous phenomena" (e.g., Congress of the United States of America, 2022). Many questioned the usefulness

of this replacement of the traditional term UFO, however, and continue to use this traditional term. Nevertheless, I think the term UAP in sense of "unidentified anomalous phenomena" has advantages – simply because it covers a wider range of phenomena. Already in the past, it has frequently been difficult to decide whether a light moving in inexplicable ways across the sky was really an unidentified solid object, or a part of such an object. And, what are we to make of unidentified phenomena that are visible to the human eye but are not captured by radar devices, or vice versa? Are they real objects? Moreover, some unidentified anomalous phenomena seemingly also move under water and they are by definition not "flying" in such cases. Hence, I use the term UAP for the general class of unidentified anomalous phenomena covered in the traditional context of UFO research. However, I also retain the term UFO when I refer to unidentified phenomena that seem to be flying solid objects of some sort, such as the classical disc shaped UFOs, spheres, triangles, and so on. In my terminology and understanding, UFOs represent a specific subcategory of UAP.

Now, returning to the mentioned attitude change regarding UAP that occurred within only a few years: What happened? A significant contribution to the initiation of this change was journalist Leslie Kean's book UFOs. Generals, Pilots, and Government Officials go on the Record (Kean, 2010). In this book, Kean demonstrated that the UFO phenomenon has been taken very seriously by some circles of high military and official standing in the past, and that solid evidence for real and inexplicable anomalies does exist. Further activities led to the publication of two influential newspaper articles in December 2017 that provided substantial added evidence for this finding; one article was co-authored by Kean (Bender, 2017; Cooper et al., 2017). Since that time, the events moved at unprecedented speed and continue to do so. To name only a few milestones: In 2022, the US-American government installed a specific office responsible for the coordinated investigation and documentation of UAP sightings, the All-domain Anomaly Resolution Office (AARO). It regularly publishes short unclassified reports about its activities. The government of the USA has allocated significant amounts of resources for the investigation of UAP in the National Defense Authorization Act for Fiscal Year 2023 (Congress of the United States of America, 2022), and it aims at prescribing compelling regulations for the disclosure of information concerning UAP (Congress of the United States of America, 2023). In the realm of science, Avi Loeb at Harvard University founded The Galileo Project for the Systematic Scientific Search for Evidence of Extraterrestrial Technological Artifacts in 2021. However, this initiative was chiefly driven by the discovery of a very peculiar interstellar object that crossed our solar system in 2017, Oumuamua, not so much by the discussions about UAP "on earth" in the military context. The controversy about Oumuamua nevertheless coincided with these developments and thus contributed to the attitude shift regarding the scientific study of UAP. Hakan Kajal at the University of Würzburg (Germany) similarly initiated a research program designed to detect UAP in the skies. At present, I am aware of more than 20 researchers who

work on UAP at universities, not counting the many scientists at other academic non-university institutions. Even NASA announced performing own studies of UAP for the very first time. In 2023, it published a report containing recommendations for how NASA could contribute to enhancing our understanding of UAP. It contains formulations such as these:

The study of Unidentified Anomalous Phenomena (UAP) presents a unique scientific opportunity that demands a rigorous, evidence-based approach. Addressing this challenge will require new and robust data acquisition methods, advanced analysis techniques, a systematic reporting framework and reducing reporting stigma. [...] Unidentified Anomalous Phenomena (UAP) are one of our planet's greatest mysteries. Observations of objects in our skies that cannot be identified as balloons, aircraft, or natural known phenomena have been spotted worldwide, yet there are limited high-quality observations. The nature of science is to explore the unknown, and data is the language scientists use to discover our universe's secrets. (NASA, 2023, pp. 3, 7)

In 2017 and in 2021, the *Scientific Coalition for UAP Studies* and the *Society for UAP Studies* have been founded. The latter society initiated the publication of the scientific peer-reviewed journal *Limina – The Journal for UAP Studies*, which is about to publish its first issue before the end of the year 2023. In addition, several conferences about UAP have been held in recent years. More recently, the US-American government held public hearings and closed meetings with witnesses of UAP encounters and personnel allegedly involved in secret UAP research programs.

On 26 July, 2023, former intelligence officer David Grusch related particularly bewildering information to members of the US-American Congress and the public under oath. He claimed having spoken to about 40 people who had been personally involved in top-secret UFO crash retrieval programs, and that the USA would be in possession of several crashed and/or landed vehicles of non-human origin, including dead pilots of these vehicles. However, Grusch had not seen any of these claimed items in person. As long as supposed first-hand witnesses do not speak for themselves and provide tangible evidence in support of these remarkable claims, they remain no more than remarkable claims. It is in fact unfortunate that much of the recent debate concerning UAP has focused on the questions in how far Grusch's information is reliable or not. These discussions have detracted from the highly significant evidence regarding the existence of UAP that has already been disclosed, and that continues to be supported by further statements and evidence, such as those provided at the same Congress hearing on 26 July, 2023, by former Navy pilot Ryan Graves and retired Navy Commander David Fravor. Moreover, this discussion focuses very heavily on UAP that have only recently been reported by US-American military personnel. But of course, UAP are reported from all over the world, and this for centuries (for overviews on different aspects of UAP see e.g. Bullard, 2010; Dolan, 2002, 2009; Zeller, 2021). Especially in recent decades, researchers in numerous different countries documented vast amounts of UAP sightings, what resulted in a mountain of fascinating data and literature that

is virtually unknown outside the field of those concerned with UAP. It is likewise comparably little known that also the Brazilian government held an official hearing on UAP on 24 June, 2022, in which some of the most prominent UAP occurrences in Brazil have been discussed. Sometimes, even Brazilian military units and fighter planes were involved in chasing UAP. In short: Considering all the evidence for UAP that has been amassed for decades, there can be no reasonable doubt anymore: UAP exist. And indeed, an ever increasing number of people including journalists and scientists are adjusting their opinion accordingly.

This development puts other branches of frontier sciences, such as parapsychology, in a completely new and unexpected situation. Typically, the opinion regarding the scientific investigation of parapsychological phenomena (i. e., "psi phenomena" such as telepathy, clairvoyance including remote viewing, pre- and retrocognition, and psychokinesis) was extremely low in the academic setting. Parapsychologists were frequently depicted as a naïve bunch of people, who, driven by wishful thinking, would stubbornly mislead themselves and the public in their vain efforts to study parapsychological phenomena - despite all scientifically established proof that such phenomena can never happen (for recent authors advocating such a stance, see Reber & Alcock, 2019, 2020). Parapsychologists would merely dabble in "pseudoscience". Only very few branches of scientific inquiry had a worse reputation than parapsychology. Evidently, UFO research or "UFOlogy" was one of these branches with a worse reputation. Even among parapsychologists, studying UFOs was often considered to be a mistaken endeavour of uncritical and gullible individuals - so much so, that many parapsychologists were keen to distance their own field of research from UFO research - although both fields share many parallels (more on that below).2 Today, the tables turned radically. Research concerning UAP has overtaken parapsychology virtually overnight in terms of academic acceptability. As stated above, UAP are discussed in respectful terminology not only among high-ranking American politicians and the military, but also in media of all sizes and types, even outside of America, and by scientists some of whom hold tenure positions at universities. In this discourse, however, the parapsychological facet of UAP is largely ignored - leading to what might be termed "mainstream UAPology."

However, numerous authors of the past have stressed already that UAP comprise psychic or parapsychological elements. Both kinds of phenomena obviously display a concordant deviance from the behavior of the elements constituting our habitual environment. Early authors who stressed this commonalty include psychologists Carl Gustav Jung (1958) and Hans Bender (1959), the latter equaled UFOs to "spook in the skies." Later sources of varying quality have been presented by John Keel (1971), Jacques Vallée (1975), Scott Rogo (1977), Berthold Schwarz

² For example, Manfred Cassirer reported that a manuscript about the parallels between parapsychological phenomena and UFO phenomena he submitted to a parapsychological journal in the 1980s was rejected because of "insufficient interest" (Cassirer, 2001, p. 14).

(1983), Hilary Evans (1984), Manfred Cassirer (1988, 2001), Colm Kelleher and George Knapp (2005), Illobrand von Ludwiger (2009), Jeffrey Kripal (2010), Eric Ouellet (2011, 2015), Diana Pasulka (2023), and myself (Cohen, 2009). Many stressed that UAP can only be understood if their parapsychological aspects are taken into account.

At present, mainstream UAPology is limited to studying the basic anomalies of UAP such as their extreme velocity, inexplicable flight maneuvers, possible propulsion mechanisms, unusual light sources, and material compositions (e.g., Knuth et al., 2019; Loeb, 2022; Nolan et al., 2022; Villarroel et al., 2021; Watters et al., 2023). This limitation is understandable in the light of the enormity of the realization that there is an unknown intelligence on our planet that operates in manners incomprehensible for contemporary human science. Yet, people including researchers and funding organizations must sooner or later also realize that there are these even weirder aspects of UAP – aspects that directly form a bridge to parapsychology and the research topics studied in this field since about 200 years. The earlier this realization is accomplished, the better. In the following section, I introduce the most important parallels and intersections of both fields of research.

Concordant Deviance: Commonalties of UAP and Psi-Phenomena

"No theory of UFOs can be deemed acceptable if it does not account for the reported psychic effects produced by these objects."

Jacques Vallée (1975, p. 6)

The mentioned weirder aspects of UAP that form a bridge to parapsychology, the "high strangeness" and psychic aspects of UAP, virtually represent a herd of elephants in the room. In the following, I will consider what has been reported over and over again, but make no claims regarding the authenticity and objectivity of specific reported events. This question is irrelevant for the first striking similarity of these two groups of phenomena, anyway: Both are elusive by nature, difficult to document, and even more difficult to replicate under controlled conditions (Hansen, 2001).³ They typically occur spontaneously and rather unexpectedly. It is therefore obvious that some reported events and effects may rest on misperception and misinterpretation. Moreover, since the realm of such elusive phenomena is a perfect playground for hoaxers, it is

³ Regarding parapsychology, I focus on the area of research into single cases studies and large-scale effects. Parapsychological experiments performed and replicated under controlled laboratory conditions are fascinating in their own right, but less relevant in the present context. But also they demonstrate that psi phenomena do occur (Cardeña, 2018).

likewise obvious that some reports, photographs, and videos are simply staged.⁴ At the bottom line, however, I regard it safe to assume that some of the described observations and experiences with a quality of high strangeness have indeed occurred as they were reported. But the most important point is: Because of their elusive nature, research methods employed for their studies are largely comparable and include a sound rationale for performing field research in single case studies. For example, inexplicable lights that sometimes also move through space in peculiar and seemingly purposeful manner have been reported in parapsychology from the contexts of hauntings, poltergeist phenomena, physical mediumship, mysticism, and spontaneous afterdeath contacts (e.g, Gauld & Cornell, 2017; Haraldsson & Gissurarson, 2015; Nahm, 2019a; Thurston, 2013; Woollacott et al., 2022). Similarly, solid objects are sometimes reported to have moved in odd and inexplicable ways in these contexts, a phenomenon typically called psychokinesis or telekinesis (Braude, 1997; Gauld & Cornell, 2017; Hasted, 1981; Randall, 1982). Levitation represents the most drastic form of telekinesis in case objects fly or float by undetected means (regarding levitation in the context of mysticism, see e.g. Eire, 2023; Grosso, 2015). And, just like many UAP in the skies, objects have frequently been reported to suddenly appear or disappear in parapsychological contexts (materialisation and dematerialization; apports and deports; for literature references on apports see Ludwiger & Nahm, 2016, for overviews on related phenomena reported from China see Dong & Raffill, 1997; Palmer, 2007). Moreover, inexplicable temperature changes have been reported from both UAP research and parapsychology, in particular with regard to anomalous physical phenomena (e.g., Turner, 1973; Randall, 2001), just as unexpected malfunction of technical and electric devices. Of course, it seems very likely that in contrast to psi phenomena studied in parapsychology, there is also a technological component in UAP (at least, in UFOs) that may underpin and facilitate these odd phenomena. Hence, the similarities of the phenomena reported from UAP and parapsychology may only be superficially similar, as highlighted by Arthur C. Clarke's famous quote according to which "any sufficiently advanced technology is indistinguishable from magic" (Clarke, 1968). But these similarities are nevertheless striking, thus indicating that both types of phenomena are only possible because they build and operate on the same basic structures of reality that are usually inaccessible to us human beings - even if the precise methods by which these phenomena are mediated may differ. Hence, studying both types of

⁴ Particularly because of my own observations and findings, I am well aware that especially the field of physical mediumship is loaded with fraud (Nahm, 2014, 2016, 2018, 2023). Moreover, I often witnessed that people fell prone to misperception and claimed to perceive occurrences in dark séance rooms or dim red light that had factually not been occurring. Nevertheless, I am open to the possibility that some mediums had been able to produce genuine anomalies, in particular those who did not insist on darkness when performing their feats. Such gifted individuals might still exist (e. g., Gimeno & Burgo, 2017). In any case, the entire field of "UFO spiritism", i.e. alleged mediums who claim to channel extraterrestrial beings, needs to be viewed with very great skepticism.

phenomena to understand their nature by addressing their similarities *and* their differences opens an intriguing field of future research.

It is furthermore obvious that UAP frequently display purposeful and seemingly intelligent behavior, thus evidencing that a mental aspect is involved in their appearance, movements, and perhaps technological construction. Today, there is no consensus regarding what kind of intelligence is responsible for creating and operating UAP. All we know is that this intelligence is capable of creating phenomena that we cannot explain with currently available knowledge. To be sure, very many people reported having perceived intelligent entities in the context of so-called "close encounters of the third kind," i. e., UAP encounters that include sightings of entities that are associated with UAP (Hynek, 1972). Many even claim having interacted with these beings. Yet, the origins and the ontological status of such entities are entirely obscure and whatever information they reportedly gave about themselves appears to be unreliable at best. It remains to be determined in how far the claimed investigations of dead UAP pilots David Grusch spoke about can contribute to clarifying these questions. Nevertheless, it is remarkable that very often, people who reported such encounters stated that these entities communicated telepathically with them. This represents a virtually universal feature of these encounters.

Some witnesses also stated that these entities moved in an odd and almost floating manner, thus displaying apparition-like attributes. In cases the witnesses have been very close to UAP, malfunction of (electronic) devices including lamps, cars, and cameras has frequently been described. And, similarly to people who experienced a profound near-death experience (Greyson et al., 2015), some witnesses report that anomalous physical and electronic occurrences continued to happen in their surroundings after profound UAP encounters. Such physical and electronic anomalies belong to the repertoire of typical parapsychological phenomena since electro-technical devices have been developed, for example in the contexts of after-death contacts, hauntings, and poltergeist cases. Other claimed after-effects of UAP encounters include inexplicable outbursts of somatic diseases but also anomalous spontaneous healing experiences, a group of phenomena likewise known from other extraordinary states of consciousness including near-death experiences (Cranston, 1988; Sartori, 2008). And, just like some near-

⁵ Should such corpses exist, and should they possess macromolecules comparable and/or compatible with those in terrestrial organisms (DNA, RNA, proteins), this would have significant implications for biology including evolutionary theories. Even the widely accepted notion according to which all terrestrial organisms developed from one and the same common ancestor via exclusively neo-Darwinian mechanisms of evolution could not be taken for granted anymore.

⁶ Telepathic communication with entities associated with UFOs has also been reported from two remarkable events that gained renewed attention recently: The mass-sighting at Ariel School in Zimbabwe (see the documentary film *Ariel Phenomenon* by Randall Nickerson, 2022) and the series of sightings around Varginha, Brazil, in 1996 (see Leir, 2005, and the documentary film *Moment of Contact* by James Fox, 2022).

death experiencers, some UAP-experiencers maintain they retained a heightened and psi-related sensitivity regarding occurrences in their environment. In fact, a number of prominent psychic claimants in parapsychology, including Uri Geller, Edgar Cayce, and Ted Owens, stated they obtained their psychic abilities as a result of a close encounter with a UAP and/or the interaction with a superior intelligence.

These interrelations between UAP and psi phenomena are particularly pronounced in what has sometimes been termed "close encounters of the fourth kind", namely the highly controversial alien abduction experiences (Bullard, 1987, 1995; Pritchard et al., 1994; for a recent "speculative analysis" of these phenomena see Dolan, 2020). They are seamlessly linked to close encounters of the "third" kind which can lead to this "fourth" kind of encounters. The latter abound with phenomena of the entire spectrum of anomalous and parapsychological experiences, including altered states of consciousness, time anomalies, telepathic communication, hauntings and apparitional experiences including floating and gliding entities that may even move through doors and walls, inexplicable luminous and acoustic phenomena, somatic effects including the appearance of skin anomalies and scars, and anomalous physical phenomena, such as telekinesis and apports or deports of objects. Sometimes, also encounters with deceased individuals are claimed to have happened during alien abduction experiences. I would like to stress again that I am not making ontological claims regarding the nature of these reported experiences. It is nevertheless evident that they closely resemble or match phenomena studied by parapsychologists for a long time already, and that similar experiential elements are likewise reported from the contexts of sleep paralysis, near-death experiences (just think of altered states of consciousness and telepathic communication with entities during such experiences), profound spiritual and exceptional experiences as well as religious mass events such as visions of Mary. In short, notwithstanding the many controversial aspects of both parapsychological phenomena and UAP, including misperception, misinterpretation, and fraud, there is overwhelming evidence that the phenomena studied in UAPology and parapsychology have much in common. And, quite importantly: These experiences and phenomena can be studied with standard methods of research applied in the humanities and natural sciences, although it might not be trivial. But I second Jacques Vallée (1975) and many others: There is no way around it. No theory of UAP will be complete without taking their parapsychological aspects into account.

How was the Attitude Change Regarding UAP Achieved and How Could Parapsychologists Profit from it?

As sketched in the previous section, serious studies in UAPology have much in common with parapsychology. And even though UAPology has long been considered to be a worse example of "pseudoscience" than parapsychology by many, it has recently gained an enormous increase

in academic and public respectability. Hence, it is worthwhile to have a closer look at how this change in respectability of UAPology came about in order to see if there is anything that parapsychologists can learn from.

In this respect, it is first of all interesting to look at the crucial element that turned "pseudoscientific" studies of UFOs into the scientifically acceptable endeavour of investigating UAP: It was journalists, military personnel, intelligence officers, media outlets, and politicians including former US-President Barack Obama⁷ who initiated this change from 2017 onwards and fueled its progress. Scientists in established academic settings such as universities contributed virtually nothing to it. They were simply skipped. Only a few courageous pioneers such as Avi Loeb, Hakan Kajal, and Garry Nolan contributed to this change in specific ways, but it is evident that non-scientists functioned as the primary and decisive game-changers. This contradicts the image that scientists habitually draw of their field and that is habitually picked up by media and the public opinion: Scientific progress is said to be achieved by the performance of repeatable experiments conducted by impartial scientists who obtain objective results. However, philosophers of science such as Ludwik Fleck, Paul Feyerabend and Thomas Kuhn have argued already a long time ago that this is a mere idealized concept of science, as evidenced by numerous examples from the history of science. In reality, repeatable laboratory experiments under controlled conditions are not even possible in many branches of science (just think of astronomy or palaeontology). More importantly, periods of stagnation and larger changes of scientific paradigms are frequently governed by social constraints and attitudes of people in influential positions, not by objective assessments of research questions performed by impartial investigators. In contrast to widespread notions, scientific research and progress are to a considerable extent driven by subjectively determined interests and opinions. The process how phenomena studied in the "pseudoscience" of UFOlogy suddenly turned into important research objectives for science just because journalists, military people and politicians demanded to do so provides one more textbook example that highlights this fact. Already for decades, dozens of qualified UAP researchers have advanced statements that are practically identical to the statements quoted above from NASA's 2023 UAP report. But instead of doing what scientists at appropriate academic institutions including NASA should have done, namely studying intriguing phenomena that have regularly been observed around the globe for ages, they ignored them. They simply did not do their job. Worse: They served as a notorious retarder of scientific advancement regarding a phenomenon of extraordinary importance. Even worse: Because they did not do their job, the study of UAP was almost completely left to self-made investigators and writers from the general population who applied varying degrees of scientific rigor to their publications and talks. Along

⁷ In Germany, affirmative statements Barack Obama made in 2021 concerning UAP proved to be a kind of game-changer regarding the way that UAP have been discussed in top-tier media and journals.

with the amalgamation of contents disseminated via disinformation campaigns (for a short overview, see Anton & Vugrin, 2022), this resulted in the creation of a farrago of claims about UAP that are often derived from sources of comparably low scientific standards and downright baloney. It is of course easy to criticize this overall output and to ignore reliable UAP studies – but in effect, the scientific establishment is responsible for creating this deplorable situation itself. Had the study of UAP been allocated to universities and other academic research institutions including NASA decades ago as it should have been, we would already know much more about UAP than we do know today. In sum, all this amounts to a veritable scandal for what is often called "mainstream" science.

Moreover, the process how the "pseudoscience" of UFOlogy turned rather quickly into the science of UAPology demonstrates in perfect clarity that habitual demarcations between "pseudoscience" and proper science are mere emotive constructs created by specific interest groups with the purpose to discredit others with differing interests. Philosophers of science have argued for quite a while already that objective criteria on which distinctions between pseudoscience and science could be based do not exist. Consequently, the term "pseudoscience" should best be dropped from our vocabulary (Laudan, 1983). Hence, parapsychologists could take advantage of the described development by drawing explicit attention to it: It is obvious that the behavioral patterns that inhibited the scientific study of UAP are likewise in place when it comes to studying parapsychological phenomena. And because these behavioral patterns are now established to be unwarranted and misplaced with regard to studying UAP, they are predictably unwarranted and misplaced in regard to studying parapsychological phenomena as well.

On a more specific level, it is instructive to examine which data have been utilized to trigger the attitude change regarding UAP. Most important were photographs, videos, radar images, and witness testimonies. This is at odds with what is often deemed to be the gold standard for scientific data acquisition and progress, also in the field of parapsychology and its critics: The performance of repeatable laboratory experiments under controlled conditions. Much of the debate between these two camps focuses on such experiments (e.g., Bem et al., 2016; Cardeña, 2018, 2019; Kekecs et al., 2023; Reber & Alcock, 2020). However, successfully replicated experiments are quite difficult to achieve already in several mainstream science disciplines including medicine and psychology, leading to what has lately been labeled the "replication crisis" in science. It is therefore not surprising that the situation regarding the study of elusive parapsychological phenomena in controlled laboratory settings is at least similarly difficult, especially when working with large samples of people recruited from the general population. Hence, focusing too much on such experimental protocols does probably not yield compelling results. Studying spontaneous cases from real life might be more fruitful. For example, engaging in "single case studies" including the work with supposedly gifted individuals who might be able to perform documentable macro-physical anomalies under controlled conditions could yield

more convincing data regarding psi phenomena and the circumstances of their manifestation (e.g., Hasted, 1981; Randall & Davis, 1982), just as it has traditionally been the case in UAP research. The technology that can be used for such studies of psi phenomena is much more sophisticated than that available decades ago (Gimeno & Burgo, 2017) and it continues to be constantly improved. After all, documenting UAP with modern (military) technologies was a crucial factor in triggering the attitude change concerning these phenomena.

But of course, the factors eliciting and fuelling this attitude change concerning UAP might be difficult to transfer to the study of parapsychological phenomena. First, as mentioned already, scientists had barely been involved in triggering this development. It was journalists plus government and military staff who instigated this development. Hence, it is likely that a similar change regarding psi phenomena would likewise not be triggered by scientists in this field. Presumably, any attempt to increase the academic acceptability of parapsychology would have to comprise a multidisciplinary, cross-domain approach that would actively involve journalists, media, philosophers, and researchers from fields outside of parapsychology, such as quantum physics and consciousness studies. With regard to the latter, links to parapsychology and extra-sensory perception are obviously given in the context of near-death experiences (Nahm & Weibel, 2020; Rivas et al., 2023), other unusual lucid states of mind that occur under conditions of severely compromised states of the brain (Nahm, 2022a), and several further open questions regarding the nature of the human mind and its relation to the body (Kelly et al., 2007).

Moreover, given that the tables turned and UAPology is currently more respectable than parapsychology, it seems recommendable for parapsychologists to build explicit bridges to UAPology instead of shying away from it, as it habitually had been the case in the past (Cassirer, 2001). A first step in this direction could be an open call for the informed study of all aspects of UAP, highlighting the intersections of UAP and psi. This call could be formulated analogously to the "Call for an open, informed study of all aspects of consciousness" initiated by Etzel Cardeña (2014). The argument could utilize the following rationale: If UAP are real, one needs to accept

⁸ Since I summarized the case of comatose Juan who perfectly remembered everything that happened during two fMRI-scanner examinations of his nonresponsive brain (Nahm, 2022a; originally published by Adrian Owen, 2017), a recent documentary film about an Israeli coma patient who likewise recovered illustrates this point as well: Although Gil Avni had already been declared "brain dead," he heard and remembered everything that happened during about two days in a hospital (Neue Celluloid Fabrik, 2023). It is a complete mystery how somebody can have a lucid mind and establish reliable long-term memories under such conditions. As a result of Gil Avni's well-documented experience, the protocols for caring for coma patients have been revised in Israel. One hopes that knowledge about such occurrences of "paradoxical awareness" in people with non-functional brains will become increasingly recognized in other countries as well. They also have implications for the practice of organ donation.

their psychic aspects as well. And because UAP are real indeed, psi phenomena are very likely real as well.

It may also help to overcome language barriers and the focus on Western countries including the happenings at the Pentagon. As mentioned, serious studies concerning UAP have been conducted for decades in many different countries and it would be very beneficial for interested researchers to become acquainted with the most relevant literature from for example Asian countries, Southern American countries, Mexico, and non-English-speaking European countries.

Implications for Theory Building

The existence of UAP has many corollaries for the understanding of the nature of the universe including mankind, and thus, for the advancement of scientific theories. Because the distances between stars in our galaxy are very large (let alone distances between galaxies), and UAP display inexplicable movements that appear to defy gravity, g-force, etc., and also seem to appear and disappear in the blink of an eye or to slowly dissolve, many regard it highly improbable that UAP are propelled through space by highly developed but still essentially conventional propulsion technologies. Rather, it seems that whatever intelligences lie behind UAP, they could have developed a way to manipulate gravity and/or space itself. This parallels psi phenomena such as telepathy and clairvoyance including remote viewing, in which spatial distances appear to be negligible as well. Instances of precognition and retrocognition indicate that it might likewise be possible to tunnel time. Hence, it is high time to re-evaluate our current understanding of the space-time continuum and to develop expansions of contemporary physics. This might be recommendable anyway, since modern theoretical physics has not achieved much progress in recent years and some physicists paint a rather pessimistic picture of its current state and future (Hossenfelder, 2018).

As I argued in previous publications, such an expansion of physics and our world model is already called for by increasing doubts that we will ever be able to develop a physicalist theory of consciousness. It is especially called for by the spectrum of psi phenomena, which a) seem to be crucially dependent on some kind of (sub-) consciousness, and b) defy purely physicalist theories (Nahm, 2019b, 2021, 2022b). The parallels between psi phenomena and UAP support the need for such a revision of our world model further, notwithstanding that there appears to be a technological component to at least some UAP. Cornerstones of a world model that can account for psi phenomena and UAP include the following:

1. The world we perceive is only a small excerpt of reality at large; it is only the proverbial tip of an iceberg most of which is presently hidden from our perceptual capabilities and technological sensors.

- 2. This background reality possesses non-physical and consciousness-related features. Otherwise, psi phenomena, perhaps including those reported from UAP encounters, would not be possible.
- 3. The notion of such a background reality implies a considerable extension of current concepts of space, time, and causation. The theories of relativity and quantum physics have already extended classical notions of physics, but we need to go much further.

In parapsychology, models that meet these requirements have long tradition. In particular, models that entail higher dimensional models of reality have long been advanced. For instance, astronomer Karl Friedrich Zöllner (1834-1882) proposed a four-dimensional concept of space already in the 1870s. To support his model with empirical observations, he worked with physical medium Henry Slade, who had supposedly been able to make objects move in telekinetic manners, and to create apports and deports. Zöllner also considered it possible to explain mental phenomena such as clairvoyance with his model (Tischner, 2008).9 Later authors assigned these higher dimensions even more mind-like qualities. A prominent contemporary proponent of such a higher dimensional model is astronomer Bernard Carr, who maintains that physics must expand to accommodate mind and consciousness. In his view, this will require a new paradigm that may involve a hierarchy of levels of consciousness that are associated with a hierarchy of extra dimensions (Carr, 2008, 2015a, 2015b, 2021). German physicist Burkhard Heim (1925-2001) has elaborated such a theory in considerable detail, but it is not much known among physicists and also regarded critical by some who are familiar with it (Römer, 2020). It entails six dimensions with the 5th and 6th dimensions being increasingly mind-related. Being a biologist with only very limited knowledge of theoretical physics, I am not in a position to judge the validity of Heim's theory. However, it can be subjected to experiments as it is empirically testable. For example, it comprises calculations of mass formula for elementary particles, and they had been confirmed to yield accurate results at the German Electron Synchrotron DESY in 1981 (Ludwiger, 2021). It furthermore contains proposals with regard the creation of gravitational fields, and it predicts that relatively stable superheavy elements that may exist in the supposed "island of stability" of superheavy elements play a role in creating physical effects that might appear as anomalies in terms of conventional physics. It is therefore of interest that according to David Grusch, material retrieved from claimed UFOs possessed shares of "extremely strange heavy atomic metal, high up in the periodic table" (News Nation, 2023; 10:50ff.). Moreover, according to German physicist Illobrand von Ludwiger,

⁹ Of course, we currently lack the ability to properly conceive something like a "four-dimensional space" or similar concepts of hyper-dimensionality. These concepts only rely on familiar terms because there are no better ones. But as highlighted by Rudolf Tischner already in 1922, a supposed four-dimensional space is no more a space than a three-dimensional space is a surface (Tischner, 2008).

Heim's theory can be extrapolated to understand the behaviour of UAP (Ludwiger, 1998). In this model, the peculiar movements of UAP, including their sudden appearance and disappearance, can be accounted for by assuming that they utilize the assumed higher dimensional structures of reality. This concept of space-time implies that the current paradigm according to which the world we perceive as a conglomerate of objects that are spread out in physical space needs to be replaced by a notion according to which space is not objectively given but simply the mode in which we perceive the world as living beings. This is reflected in Carr's quote of Paul Brunton according to which "we must mentalize space and spatialize the mind" (Carr, 2015a, p. 231).

Such a notion of reality may seem odd and unfamiliar for many natural scientists, but it is familiar for many philosophers. In his Critique of Pure Reason, Immanuel Kant famously argued that time and space are merely the elementary "forms of intuition" by which we create our world, but that time and space cannot be regarded as existing objectively outside of our human mode of perceiving and reasoning. He regarded the world as being composed of "phenomena" that we create ourselves, whereas the "noumena", or "things in themselves", from which the phenomena are derived, would remain fundamentally inaccessible for our modes of perception and the functional modes of the rational mind. Granted, there have been controversies with regard to how exactly Kant understood the concept of "things in themselves", since his formulations are ambiguous and he also changed his opinion over time. But I hold it with philosophers such as Arthur Schopenhauer, who regarded things in themselves as really existent. According to Schopenhauer, who aimed at developing the basic ideas of Kant's philosophy further, there is even one (and only one) attribute that we can assign to these things in themselves: All phenomena in the world that we live in, including our own body and mind, are representations of a fundamental will to exist. Schopenhauer factually equaled things in themselves with this will, hence the title of his main work: The World as Will and Representation (for an accessible introduction to Schopenhauer's philosophy, see Kastrup, 2020). According to Schopenhauer, this will is mental by nature, and since he furthermore claimed that the world of representations perceived by humans can only be construed through the mind, anyway, his philosophical position thoroughly idealist. Apart from Kant's philosophy, Schopenhauer also held the basic concepts of Plato's philosophy in high esteem. Plato maintained that only ideas are truly existent. The phenomena constituting our world are mere lower-level and fleeting representations of ideas in which they are grounded.

Such philosophical positions are compatible with higher dimensional models in physics that assign these higher dimensions mind-like qualities (Nahm, 2022b). In fact, Heim can be regarded as a Platonist as well. In essence, he described in a formal and mathematical manner how ideas or mental elements pertaining to the primordial ground of existence in higher dimensions come to manifest in our four-dimensional world as seemingly stable perceptible phenomena.

But these assumed higher dimensions are not just additional passive dimensions such as space and time. They rather represent features that structure the world we perceive on a fundamental level. Therefore, models such as those developed by Heim and Carr might eventually lead to a deeper cognizing of usually hidden structures of reality, and enable us to better understand the peculiar characteristics of UAP. In fact, prominent actors in the field of UAPology, such as Jaques Vallée, Garry Nolan, and David Grusch have expressed interest in such higher-dimensional models, including that of Burkhard Heim (Jaimungal, 2022; News Nation, 2023). But regardless if pursuing and developing such higher-dimensional models will be successful or not, one thing is certain: We need new extensions of physics and everyone needs to adjust to this fact. We need to get used to thinking out of the box in order to advance our understanding of what UAP are. To be sure, there will be errors and dead-ends when trying to develop such extensions. But there is nothing to lose. Making errors leads to progress as well. This is just the way science works when aiming at new horizons.

Conclusion

In the preceding sections, I argued that UAP have much in common with psi phenomena and that encompassing investigations of UAP need to consider these aspects as well. This explicitly includes studying and/or collaborating with people who encountered UAP and entities that seemed to operate them. I also believe that parapsychology can profit from the recent developments by highlighting specific aspects of the manner in which the fundamental attitude change regarding UAP has been accomplished. In fact, this attitude change is still continuing. It is a highly dynamic process that will hopefully reach more and more open-minded scientists. Hence, there is a chance that scientific investigations of UAP and also psi phenomena, as well as the discourses about them, will become increasingly evidence-based in the years to come, thus leading to increased factual knowledge about UAP. This might well be the beginning of a fascinating development. Considering the breathtaking scientific achievements that humans have accomplished during only the last 150 years, the next 150 years, let alone 1500 years, could brim with discoveries that we cannot even fathom today.

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