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Article

Making Outer Space Legal: The “Appearance” of Extraterrestrial Intelligence at the Dawn of the Space Age

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Abstract

In the mid-1950s, the world's space law practitioner, Andrew G. Haley, proposed the concept of Metalaw, the law governing interactions between all beings in the Universe, as he represented the American Rocket Society in the International Astronautical Congress, the single largest gathering of space-faring nations. Haley, with experience in radio communications law dating back to the 1930s, played a pivotal role in addressing the international allocation of radio frequencies in space. Haley was, too, an agile mediator with the Soviet Union and its bloc, acting across various organizations and forums. This article, in contextualizing Haley's introduction of Metalaw, shows how the onset of the Space Age coincided with the emergence of a contact scenario involving extraterrestrial intelligence enabled by the corresponding techno-scientific capabilities of the time. It demonstrates how extraterrestrial intelligence discursively addressed outer space regulation as a bone of contention between the two geopolitically divided parts, a regulation upon which the US's global satellite system would depend. The analysis in this article recounts the birth of the Metalaw concept at the intersection of outer space imaginary, law, international organizations, science and technology, diplomacy, the Space Race, the Cold War, and radio astronomy's Search for Extraterrestrial Intelligence.

Keywords: Metalaw; Space Race; Cold War; extraterrestrial intelligence; space radio communications; international law; international organizations

1. Introduction

This paper moves beyond the traditional history of contact with extraterrestrial intelligent beings during the second part of the twentieth century. The idea of techno-scientific grounded contact with extraterrestrial intelligence has fascinated historians (Basalla 2006; Dick 2020 and 1996; Macauley 2001; Varga 2022), anthropologists (Capova 2013; Denning 2010; Traphagan 2015), sociologists (Swift 1990), and STS (Bozeman 2015; Webb 2020) scholars alike. Yet, it has barely been viewed within the international political dimensions of the Space Age, or legal history. Equally, the existing historiography recognizes the role of the Soviet Union to a certain extent (Charbonneau 2025; Squeri 2016; Sheridan 2007). Nonetheless, attention to the diplomatic communications and relations, as well as law-making involved, is still missing. An almost unanimous historical narrative across this literature spectrum reigns. Accordingly, contact with intelligent beings in the Universe became a legitimate scientific and empirically grounded pursuit in 1959. That is when Giuseppe Cocconi and Phillip Morrison published an article in the journal *Nature* (Cocconi and Morrison 1959). These two physicists theorized the feasibility of communicating electromagnetically between societies situated across interstellar space.

The emphasis on the *Nature* article in historiography results in part from its timing. By 1959, astronomical observations in wavelengths outside of the visible light window of the electromagnetic spectrum (with radio waves being the first ones considered for this purpose) had been possible long

enough to acknowledge radio astronomy as a revolutionary techno-scientific domain. Historians often refer in this sense to the period starting from around 1960 as “the Golden Age” of radio astronomy (Vershuur 2007). At the onset of this period, radio astronomers on both sides of the Iron Curtain picked up the idea of Cocconi and Morrison very quickly. They formed the field known later as the communication with and subsequently search for extraterrestrial intelligence -- CETI, respectively SETI -- (Braude 2012; Orchiston et al. 2021; Sullivan 2004 and 2009; Vershuur 2007). It is surprising that the history of science’s preoccupation with technological electromagnetic contact with other intelligent beings in the Universe has not yet sufficiently broadened this narrative given the technical capability of radio astronomy. The latter was coextensive with the central one of the Space Age, the the ability to track space vehicles (Butrica 1996). The present paper addresses this knowledge gap. It locates in time and space the emergence of the question of extraterrestrial intelligent beings and techno-scientifically grounded contact with them at the beginning of the Space Age. It identifies contact with other intelligent beings in the Universe as an empirically enabled issue that signaled the space satellite race and was a part of diplomacy. It describes clearly how the concept of (electromagnetic) contact with other sentient beings in the Universe became very real legally in a particular international context. More concretely, this context involved the prospect of the Soviet Union and the West meeting on equal footing in space. The notion of extraterrestrial intelligence appeared while the US was anticipating relations in outer space with its geopolitical counterpart, the Soviet Union.

In its analysis on the prospect of extraterrestrial intelligent beings turned tangible in the international astronomical community, the present paper identifies a two-stage process in US-based concerns over the lack of regulations in outer space. Shortly after the Soviet Union announced its satellite program at the international gathering of space-faring societies - the International Astronautical Congress (IAC) in early August 1955, US lawyer Andrew Haley of the American Rocket Society (ARS) took contact with extraterrestrial civilizations seriously. He presented the topic at the space-faring discussions at the ARS 25th Anniversary Annual Meeting in Chicago on November 14-18. Cognizant of the urgency to address both outer space sovereignty and the increasingly globalized context of radio frequency use, Haley took a determined position on them. He addressed human contact with sentient extraterrestrials in his talk “Basic Concepts of Space Law.” During the next IAC in mid-September 1956, Haley reiterated the points from the 1955 ARS talk. He explicitly included contact through electromagnetic waves as he formulated the principles of what he called “a truly universal law” in his paper “Space Law and Metalaw - A Synoptic View.” The two talks mirrored a two-stage stepping-in of the Soviet Union as a space actor. First, in 1955, the presence of the USSR at the IAC coincided with the discursive appearance of extraterrestrial intelligent beings. Second, in the 1956 IAC, with the Soviet Union in a leadership position, Haley posited the existence of extraterrestrial intelligent beings as a question of outer space jurisdiction and space radio/electromagnetic communications.

The case study aids several additional broader historiographical themes. The claims in this paper originate in applying to the specific idea of extraterrestrial contact the call of outer space historians to look at international and other-than-purely-Western perspectives on the Space Age imaginary (Geppert et al. 2021; Siddiqi 2010). This article continues with this line of historiography, deflecting from a meta-narrative of the Cold War “Space Race” (Geppert ed. 2012). Haley’s talks show how the meta-narratives coexisted and reinforced one another (Jenks 2022; Muir-Harmony 2020). Findings of this article complement the existing historiography with legal history. They emphasise a relational character of the extraterrestrial intelligence imaginary as emerging in a specific historical moment and place. The latter refers to the gathering of astronomical actors that the ARS and the IAC implied (and the relation between the two) on the verge of the launch of Sputnik. This case study brings the understudied history of the IAC and its organization, the International Astronautical Federation (IAF), into the light. Space historians often use the term “astrofuturism” to define the future of humans in space imaginary (Ganser-Blumenau 2019; Kilgore 2003). Producing a diplomatic

astrofuturism through Metalaw and of contact with extraterrestrial intelligent beings was deeply intertwined with the Space Race, signaling the latter's commencement.

The analysis in this article further brings the studies of space science as seen through international organizations in conversation with the history of the outer space imaginary, with a focus on law for the first time. Historians of law explicated to a certain extent the jurisdictional gist of Haley's talks (Doyle 2002; Hobe 2013 and 2020). Most recently, Doyle (2024) has also emphasized the strategic use of discourse by Haley, including to address the perceived threat of the Soviet Union in space by the US. My interpretation takes a step further than these previous commissioned histories (by the International Institute of Space Law). It looks at the entry point into them that Haley chose - namely, the mere existence of other beings in the Universe and the possibility of contact with them. This stands in contrast with how historiography treats the question of other beings in the Universe as relatively distinct from outer space sovereignty. Haley's universal law, based on the premise of extraterrestrial intelligence's existence, directly supported the US' plans for a global satellite network (Craven 2019; Oldenziel, in Hecht 2011, 13-42; Nardon 2007).

The strategic importance of establishing outer space overflight freedom for the US to set the scientific satellite program in place, as well as how this further supported the military satellites (Gavaghan 1998) is a known theme for historiography. This article adds to the observation that it was far more critical for the US government to ensure free overflight of a satellite above other countries' territories than to make sure the US launched a satellite first. Regardless of who would be the first, the precedent of free overflight would be established, helping the US's goals (Slotten 2022). As such, the article here engages with how the Space Race's beginning was marked by the urgency for international regulations. Invoking the prospect of contact with extraterrestrial intelligence helped address this urgency. The IAC enabled a diplomatic forum for the US and the Soviet Union to come into contact and communicate with each other. Thus, positing extraterrestrial intelligent beings, contact and communication with them concerning sovereignty and the use of radio waves in space advanced international relations.

Lastly, this study contributes to STS scholarship of outer space (science) based on actor-network theory (Messerli 2016; Vertesi 2014). The study here views extraterrestrial intelligence and communication with it as active forces -- actors with agency visible at the discursive level. The observations in this paper weave a thread between critical approaches from geography to outer space geopolitics and the Space Age's inception. More concretely, these dialogical routes between disciplines can serve to teach a history of outer space with human contact with extraterrestrial (intelligent) beings at the center, in line with a feminist geopolitics narrative agenda. The latter proposed to shift the analysis from conflict and competition towards peacemaking and bodily security (Hyndman 2001; Klinger 2019). It is new in this sense to show how the prospect of contact with extraterrestrial intelligence was at the forefront of such a narrative by expanding the categories of the human and decentering both the terrestriality and humanness of intelligence. Until further notice, no resembling case to Haley's exists in historiography on the support of the US's interest in establishing freedom of overflight in space above the territories of other countries, as well as regulating electromagnetic frequencies. Prioritizing the prospect of communication with radically different forms of life within the internationalized astronomical community at the onset of the Space Age subscribed to a narrative of protecting life and non-human entities. Narrating and teaching a history of how humans have constructed and acted upon narratives of protecting life, as opposed to those of colonization, but in direct correlation with the Space Race, brings new venues for critically reconsidering the intricate traits of outer space narratives.

The next section looks at the background and dynamics of the mid-1950s internationalized astronautics community and presents the human historical actors: the ARS, the USSR, and Haley concerned in the introduction of Metalaw. The subsequent part analyses Haley's extraterrestrial intelligent beings through Haley's talk in November to the ARS. The third section deals with outer space sovereignty and space radio communications, as presented in the same historical source. The last thematic part focuses on how the 1956 IAC paper by Haley took the question of extraterrestrial

intelligence to the next stage, stabilizing it at the center of outer space issues. The Conclusion and Discussion part sums up the article's findings by emphasizing specific connected historiographical routes and suggesting further venues for scholarly inquiry.

2. Actors in Action in the IAF: ARS, USSR, Haley, and Extraterrestrial Intelligent Beings

In the mid-1950s, the US aspired to and proclaimed itself the real future space power, with the overall support of a Western-dominated international community. This domination echoed in the IAF constellation. After WWII, rocket societies arose and grew in countries with sufficient resources. Government funding helped rocketry to develop exponentially by the mid-1940s, especially in Germany, the USSR, and the US (Neufeld 1995; Siddiqi 2000 and 2010; Trischler 1992). In June 1949, the West German Rocket Society approached its French and UK counterparts to establish international cooperation. This led to the first International Astronautical Congress (IAC) in 1950, which continued to take place yearly, and the founding of the IAF at the 1951 IAC. IAC continued to gather the rocket societies, members of the IAF, annually since then. Although not present at the first congress, the US became a driving force in the IAF from the second congress onwards. Lawyer Andrew Haley, the main delegate of the ARS, took the lead in discussions.

The US soon occupied IAF executive positions, too. In 1951 and 1952, West Germany held its presidency. For the next three consecutive years, expert in rocketry and spaceflight Fred C. Durant III from the US was elected president. Following him was the UK's representative for one year in 1956, and subsequently Andrew Haley in 1957 and 1958 (Mory 1994). Given the rule that even though more societies could join the IAF from a country, as long as their individuals' membership number counted at least twenty-five, only one society per country had voting rights. For the US, the voting society was the ARS. Founded in 1930, the latter proliferated in the 1950s, reaching 21,000 members. Both Durant and Haley were consecutively presidents of the American Rocket Society (Durant in 1953, Haley in 1955). The IAF aimed to help astronautics develop as well as gain visibility for the public. Creating the IAF and local societies mutually reinforced each other (Skoog 2011). With the exponential growth of member numbers, the IAF increased in significance (Haley 1963, pp. 351-534; Skoog 2011). In the 1950s, its frameworks brought a process of intense international -- primarily Western -- communication among astronautical societies, with the ARS as a protagonist.

Positing the existence of extraterrestrial intelligent beings was as sudden as the change of dynamics in the astronautical community. By the mid-1950s, interest in space exploration had substantially grown. This increase was visible in the IAF, too, as part of a generalized space science-related internationalization (Hollings 2016; Krige, Callahan, and Maharaj 2013; Stroikos 2017). In planning for the scientific cooperation of the International Geophysical Year (IGY), which would be realized throughout little more than a year during 1957-1958, space science was expected to play an increasingly promising role, although it was not included in the initial preparations from 1951. While the Soviet Union refused to take part in the early 1950s in the IAF, it suddenly joined the 1955 IAC -- held 2-6 August in Denmark, Copenhagen -- as an observer to decide whether it would formally join the next year. Despite over two hundred members in the IAF, it was the first time an Eastern/ Soviet Bloc country was present. On July 29, 1955, President Eisenhower announced that it would launch its satellite program. The Soviet Union followed suit, trumpeting its own satellite program at the IAC the same year in Copenhagen (Doyle 2002, pp. 20-40).

The Soviet Union's announcement came as a surprise to the West and reverberated through the non-governmental nature of the IAF. A subsequent Staff Report of the Select Committee on Astronautics and Space Exploration submitted to the US Congress in 1959 showed that the USSR had been taking relatively steady and pioneering steps towards outer space (1959, pp. 217-237). However, a concrete Soviet pursuit of satellite studies began only in 1953 (Siddiqi 2008). Isolated from the internationalized astronautics community until the mid-1950s, the Soviet Union emerged as a prominent space navigator. It extended terrestrial geopolitical bipolarity extra-terrestrially right on the cusp of the launch of the Space Age. Since the IAF was meant to be an independent forum from

any government agency, formed out of individuals and societies interested in exploring and flying into outer space (Doyle 2002), the USSR's joining would radically shift this core value. The Soviet government directly appointed its delegation to a non-governmental organization.

Haley postulated the existence of other intelligences under the certainty of some presence but uncertainty over the exact details of this presence of other intelligence in the universe. When the Soviet delegation declared at the IAC in Rome that it would submit its satellite program at a later date, the statements were generally very vague, with no precise date on which the Western counterparts could orient themselves. This marked a continuation and exacerbation of an already prolonged uncertainty in space from Moscow to the West. According to the 1959 report to the US Congress, publications before the end of 1956 were very vague in the Soviet Union on their exact plans. The report also named "the ending of Soviet uncommunicativeness" as of December 1956, when the USSR started to share more concrete data in this sense (Select Committee on Astronautics and Space Exploration 1959, p. 224). In late 1956, there was thus a need for a scientific-political imagination to plan against this uncertainty. The discursive occurrence of the notion of extraterrestrial intelligence accompanied the US reaction to and interpretation of Soviet uncommunicativeness and perceived Soviet unpredictability.

The occurrence of extraterrestrial intelligent beings in Haley's work also concerns Haley's background and motivations, informing his vantage point. The North American lawyer had fewer prerequisites for a view across multiple epistemic communities and took to heart his role as a lawyer for American astronautics. He wore many hats as a founding member of the American Rocket Society and subsequently played different important roles in the organization, not least as its vice president, president, council and Board of Directors member. He represented the ARS in the IAC continuously throughout the 1950s. From 1945 to 1946, Haley served as an advisor to the United States Senate Special Committee investigating the National Defense Program. On the front, his legal counsel expertise had made him a major in the Air Force. Earlier, ever since the beginning of his career in the late 1920s, Haley had been highly involved in federal radio communication laws. Throughout his career, Haley also worked as a private lawyer.

The experience and positions that Haley had gained by 1955 made him well-informed about astronomical radio communication and, more generally, about the legal implications of internationalized astronautics. Haley also became the Representative for International Affairs of the IAF and, as such, established cooperation with other international organizations, such as UNESCO (Doyle, in Hobe 2013; Murphy 2010). Haley's dedication to space law dated at least back to the war period when he worked with von Karman to develop missiles, who jokingly told him, "Now, Andy, we will make the rockets [...] Later on, you will have to see that we all behave well in outer space," and added with a twinkle in his eye that "After all, we are the scientists, but you are the lawyer, and you must tell us how to behave ourselves according to law and safeguard our innocence," as Haley recalled back later in his monograph (Haley 1963, xii).

Haley's expertise, motivation, and vantage point were crucial to seeing and addressing the legal issues connected to going into outer space. It was not on the radar of the ARS rocket scientists to establish different legal regimes to support their scientific-technological projects. International law simply did not belong to the regular discussions in the ARS. Consequently, Haley had to deploy his rhetorical talent, logical reasoning, and correlative thinking in presenting his points convincingly. Lawyers had thought of two main issues since the beginning of the twentieth century, but these remained unsolved until the Space Age. Haley made them clear in the abstract and added them to the published version of the paper a year later. As he put it, since science was "rapidly outdistancing law in space exploration and travel," lawyers like him were compelled to act to "avoid perpetuating the inadequacies of the international law of today," meaning its "hostile" character towards the planned space activities. Haley aimed to urge the forming of a space law system "based on the principle of fundamental justice" and to lay out the "steps which might be taken by existing international organizations - especially in the field of communications" (Haley 1955, p. 951). In proposing both a philosophical tenet for space law as well as a specific pathway for space radio

communications, Haley showed his knowledge across communities and domains, supporting his drive for action. The sections' titles of the paper, "The Background -- Sovereignty Over Air," "The Unmanned Earth Satellite," "Communications Laws and Controls," reflect the strong legal nature of his talk, yet without talking in legal jargon. His audience received a highly condensed transmission of information in a form that spoke to them.

3. The "Appearance" of Space Age's Extraterrestrial Intelligence

At their 25th Anniversary Annual Meeting in Chicago in mid-November 1955, the ARS took a journey that included the dawn of civilization, the Universe, and the sixteenth century. The introductory section of Haley's talk created rhetorically the logical reasoning for the question of extraterrestrial intelligence. Historical yokes and tensions based on dualities were crucial overall in the 1955 talk, and Haley commenced with a long-durée perspective on human law, placing in it the dawn of the Space Age ((Haley 1955, pp. 951-953). He compared the unknowingness in the present (that is, 1955) about "a vision of the space law" with the unknowingness "in the bleak beginnings of human civilization" -- estimated by Haley around the time of the 22nd Century B.C. -- on the present (1955) law. However, according to Haley, for the first time, one could not rely on those principles anymore. "But what of the other intelligent and purposeful beings who may exist - what of our relationships to them?," asked Haley. Therefore, the possibility of encountering other beings in the Universe for the very first time counterposed millennial principles which had served so far to "govern man qua man."

In advancing the idea of a new radical jurisdictional break, Haley also drew a similar picture with the return to "natural law" that helped the rights of colonized populations in the era of the great Spanish conquistadors. Natural law traditionally described the universal principles that were not dependent on or issued by a state or political authority -- the latter making up "positive law." Haley pointed to a novel necessity, given the different ontological nature of other sentient beings in the Universe. The argument was that if one assumed a similar nature, then humans would risk forcing their own concepts upon them -- leading to "malum in se" or "destruction." To put it another way, the previous argument that one could no longer return to the old principles moved to the level that one should not, a much stronger stance. Since humans forcing other humans already represented a terrestrial secular problem -- Haley referred to the decimation of Indians --, "we must assume that other intelligent beings will not be identical to us." No existing human law designed to apply only to humans could apply to other intelligent creatures: "We must be prepared to deal with intelligent beings who are different in kind from us and who live in environments different in kind from ours." Going into outer space challenged the very ontology at the base of any existing law.

Another historical argument supported the fact that the presence of extraterrestrial intelligent beings served to support a radical change in human law presuppositions. The ARS audience traveled for this argument back in time to the sixteenth century. Haley indicated that there were largely two distinct approaches to international law. In the first one, laws represented a collection of municipal laws, a gathering of the laws of governments. This was "repugnant" to the plans of going into outer space but, unfortunately, ruled the airspace regulations. The second one, Haley further stated, relied on cooperation, dating back to the travels of the Spanish conquistadors. Regulators defended the sovereignty of those occupied and argued that the law of nations according to which "what belongs to nobody is granted to the first occupant" was unfair and that the occupying of space and moving into space was only to be limited by one condition: that it did not hurt other beings. The concept of natural law posited offered a higher, universal principle, independent of any nation's law and could be "discovered by the rational intelligence of man," in the words of Spaniards legal revolutionaries that Haley cited. Since the second view on international law arose "of necessity from the nature of things," as another Spaniard cited by Haley put it, the implicit deduction was that new existing entities again challenged existing law. Extraterrestrials were, in this sense, the legal ontological extension of those colonized four centuries prior. Haley personified outer space to push for a radical

change of law based on the explicit historical terrestrial precedent. Personification served as a call to return to natural law and reconsider the roots of the principles of law.

4. Outer Space Jurisdiction, the Unmanned Earth Satellite, and Radio Communications in November 1955

After Haley ended his introduction with the observation that because of the “hodgepodge of strong laws of individual nations which assert[ed] absolute sovereignty over airspace,” there was no freedom of the air, despite a few “pious” declarations in this sense, he laid out the historical background. He painted out a tension between freedom and sovereignty, overlaying one between peace and war, between the/a New World and the British Empire. Haley located in time and space the absolute sovereignty right in English common law, which regulated private ownership against other private citizens. As such, a landowner had a right to “everything extending indefinitely up to the sky and indefinitely down into the earth” - relative to the terrestrial land surface owned. Implicitly, if one proceeded with absolute sovereignty, the New World, together with the entire terrestrial astronautics community, would be subject to the old empire’s rules of private landowning. Haley then referred to the beginning of the twentieth century when lawyers argued for the idea of the freedom of the air, thereby setting limits to sovereignty (Haley 1955, p. 953).

Then, Haley explained how, during both WWI and WWII, countries adopted the idea of absolute sovereignty to maintain control of the airspace above their territory. Around the end of both wars, nations signed agreements, on the one hand, settling exclusive sovereignty, especially the Paris Convention in 1919 and the Chicago Convention in 1944 as an “outgrowth” of the wars. On the other hand, some nations, especially the US, were in favour of the right of “innocent passage,” or free overflight over the territory of another country. As Haley mentioned, the US signed the 1919 convention “with reservations” and sought to establish agreements with Canada and any non-signing nations in the Western Hemisphere to allow overflight (Haley 1955, pp. 954-955). Overall, in laying out these facts, Haley tacitly portrayed the US as counteracting the tendency to restrict the freedom of the air internationally and opposing the extension of the British Empire’s private landowners’ rights over the entire airspace.

In bringing to the present moment the question of outer space sovereignty, Haley emphasized altogether the lack of a legal framework for the satellites. The 1944 Convention -- the latest, broadest signed international agreement -- had a specific clause preventing the flying over another country’s territory of an uncrewed vehicle without the approval of the latter. However, the Soviet Union and other Communist countries still had not joined the act, which by 1955, 66 nations in total had signed. The Communist Bloc stood outside of international agreements affecting (un)crewed space flight. Additionally, in the last years, as Haley mentioned, the term “aeropause” had also been developed “as a biological and physical, rather than political or jurisdictional concept,” pointing to the height at which the atmosphere ended. Although Haley did not emphasize it, the new terminology was significant in that it further grounded the idea of limiting sovereignty to a certain height. He added that “the jurisdiction over regions beyond the atmosphere will be claimed at least until each interested nation has successfully launched satellites” (Haley 1955, pp. 954-955). Therefore, the sovereignty of every country that was part of the satellite program with its own satellites safely returned to earth was bound according to appropriate freedom of the air -- even if US regulations prohibited the overflight above some of its government installations, as the lawyer noted. These facts showed that Haley aimed to make the ARS aware of a balanced view of the need for sovereignty while limiting it. Haley depicted a realistic state of facts in laying out the disparity between the legally lacking space and the new developments that surfaced -- that there was no outer space. The lack of freedom translated into a lack of a framework, namely the absence of outer space from a legal perspective.

Discussing the “unmanned” satellite further served the overarching purpose of advancing the idea of freedom of the air. Haley placed the international dynamic generated by the announcement of the US’s scientific satellite program of the IGY concerning the prolonged lack of a legal framework.

The announcement, he emphasized, had achieved what lawyers could not -- namely, the agreement to satellite overflight by all the countries involved. Since no nation objected, this created a precedent, according to Haley: "The inauguration of the program in a peaceful and uncomplicated manner is a great achievement of scientists throughout the world." The relatively late addition, planned in 1954 and approved in 1955, of the US satellite program was endorsed not only by the tacitly agreeing nations but also explicitly by the USSR. The Soviets, a few days after the US announcement, declared themselves ready to support such a project of scientific benefit to all nations - as mentioned by Haley (Haley 1955, p. 956). By emphasizing the scientific nature of the satellite program, Haley endowed it with a peaceful nature and subscribed to the official US narrative. Haley painted a picture of utmost international collaboration, including that of the Soviet Union. He conveyed to the IAF what narrative would help advance the satellite program jurisdictionally, to help the US' established course of action of moving towards a framework that would accommodate the right of innocent passage, limiting airspace jurisdiction.

Haley further called for legislative action or informed the IAF of the need to support the actions taken to establish the right of innocent passage. Here, extraterrestrial beings intervened, thereby drawing a circularity in the exposé. Haley emphasized the problematic nature of the principles proposed so far. For example, the UN Director of the Legal Division proposed at the time to limit the sovereignty of each state to the altitude at which it was able to control a vehicle flying over, leading to "the disquieting prospect that a state with extraordinary scientific resources could extend an empire into deep space." Haley explicitly referred to England's dominion over the maritime domain based on a similar principle. Yet, as problematic as these principles were, they made clear the need to have a limit to national sovereignty. Making outer space was about limiting national sovereignty. "Anything which limits these awesome vistas is desirable" (Haley 1955, p. 957) since perpendicular lines drawn on the surface of the globe starting from the borders of the countries would diverge infinitely, leading to a "hypothetically infinite funnel of dominion" -- as others cleverly cited by Haley had put it. Haley also urged the United Nations (UN) to form a legal committee in this sense.

Haley argued extraterrestrial beings should factor in when establishing this limit: "mankind may make only such utilization of space as will be for the benefit of all mankind and to the detriment of no other intelligent creature." Haley made it explicit that under no circumstances should the satellites obey the rule of absolute sovereignty. His apparent detour -- that other beings of a different kind had to be considered when dealing with outer space -- directly questioned the principle of absolute sovereignty, the idea of vertically extending the boundaries of states into the air and cosmos with no limit. By cleverly yoking the existence of other intelligent beings to ethical-religious questions and addressing much deeper foundations of the preexistence of ideas on outer space, Haley offered a strong tenet for a desired way of legally conceptualizing outer space as an immediate issue for the IGY. Extraterrestrial intelligent beings brought the ARS closer to the US governmental geopolitical interests. The radical difference between other beings in the universe and humans tacitly supported the radicalness of the difference between outer space and airspace. Both radical differences relied on a sense of realness: the realness of contact with other beings and, respectively, a sense of the realness of the presence of human intelligence in outer space.

Concerning space radio communications, the American lawyer continued to lace the ARS into the international organizational infrastructure of space. Still, he fell short of a direct and clear rhetorical link to intelligent extraterrestrial beings. He explained to the ARS the responsibilities of corresponding international organizations and what could be done to advance laws in the international theater. As the only way to keep track of objects flowing in the air was by radio, Haley anticipated nonetheless that other means would be developed in time, however, to "impart intelligence." He added, "With the advent of the manned satellite, all the problems of communicating intelligence will become quite complicated and will call for more and more use of the radio spectrum." At most, Haley's observation that each state could claim a territory and the historical precedent of the first occupant being entitled to a new territory -- challenged by the idea of natural law as universal and above the laws of states -- indirectly but logically opposed the radio frequency

allocation practices at the time in the international realm. The USSR was notorious for claiming a large part of the spectrum based on the in-place rule of first-come, first-served basis (Slotten 2022, p. 42). Thereby, the extant rule was advantageous for the other intelligence-able side of the Iron Curtain.

5. Metalaw: A Synoptic View

When the Soviet Union and the US made contact as leading members of the IAF in the IAC in September 1956 in Rome, Haley substantially expanded the consideration of the question of relations between intelligent beings in the universe. Even more skillfully than previously, he addressed the need to regulate prospective interactions in space with new entities. In a compressed historical review of ancient philosophical and religious principles - from a wide geographical background, citing Aristotle and Confucius, and referring to Jainism, Haley argued that the law until that very moment of 1956 had been "starkly anthropocentric." That meant, Haley explained, law had solely regulated relationships "of man vis-à-vis man in his ambit" or "simply the law of human beings." Quoting from the base law textbook, Haley drew attention to the fact that law defined a system of rules that established justice in the "relations of persons and things as they practically exist." In the light of the Space Age, the existence of extraterrestrial entities became important for law: the category of persons and things would, for the very first time, substantially extend beyond the category of humans -- that is, "men" (Haley 1956). In other words, the existence of the absolute or radical extraterrestrial "other" and the prospect of contact with them advanced the concept of equity for law mediating between manly and non-manly/ human and non-human entities.

Haley was defending the sovereignty of (extraterrestrial) entities, pointing out that anthropocentric law was not genuinely universal. Although Haley did not explain, with the possibility of the existence of other intelligent beings and their encounters with humans, the term "universal" took on an extra weight. To address the pitfalls of anthropocentrism, Haley said, "Under the concept of absolute equity, we must project the possibility of an indefinite number of natures, and therefore of an indefinite number of frameworks of natural laws." The plurality of worlds and the prospect of men/humans meeting other kinds of intelligent beings through space exploration and science provided Haley the base for what he called "Metalaw." In Metalaw, "we deal with sapient beings different in kind," the premise of Metalaw being "To treat others as they desire to be treated, AND not as we would desire to be treated [...] The latter might mean their destruction." Haley drew attention to the fact that each society had to deal with "its own evil," and its members shall not attempt to become perpetrators of evil in interaction with other societies. The same reasoning that informed the Spanish lawmakers' concern to stop their co-national explorers from oppressing American Indians was necessary now (1956) to have international space law. "There is no freedom," Haley reasserted, because of the right of states to claim absolute sovereignty to the air space above their territories. Gravitating around universal moral correctness addressed the long-pending question of airspace/ outer space sovereignty -- this time during a live Soviet-Western terrestrial equal encounter.

It was also in 1956 that the (retrospectively) missing link in the ARS paper between space radio communications and extraterrestrial intelligent beings became explicit. Haley hinted that "we must conquer certain problems of semantics before we are worthy of space travel beyond our Solar System." In other words, Haley implied that some sort of communication with the other intelligent beings in the Universe should be established before direct contact. Although Haley did not emphasize it this time, since radio communications were already at the center of such contact, it followed that semantics would have depended on the radio medium. This interpretation aligns with his previous point in the November talk when he emphasized that radio was the only means of communicating with the aeropause. All in all, Haley implied that one could communicate and do so intelligently with other beings before proceeding to land.

Other points in the same talk support such an interpretation. Haley made efforts to offer an exhaustive list of activities of human contact with extraterrestrials, proposing "to speculate with some justification as to their possible effects on other creatures." These were: "(1) Communications system:

(a) Electromagnetic waves; (b) Light signaling (photons); (c) In an atmosphere - of pressure waves; (2) Propulsion: (a) Infrared rays, from heat; (b) Radiation from a nuclear process; (c) In an atmosphere - from pressure waves; (3) Man's physical and mental properties: (a) Parapsychological and telepathic impacts; (b) Body offenses and germ dissemination; (c) Impact of ideas and customs of man." The historical record does not clarify why Haley chose to differentiate between electromagnetic waves, light signals, and infrared rays, known to be electromagnetic waves. As problematic as the categories formulated here might have been, Haley carried the idea of the effect of electromagnetic signals on other beings to the forefront: radio communications would directly impact other beings.

Haley formulated two principles of direct contact in this sense - namely that the landing will only be pursued once it is clear: "(1) the landing and contact will injure neither the explorer nor the explored; and (2) until the earth ship has been invited to land by the explored." He added that these two precepts of regulation were "so necessary that it would be better to destroy mankind than to allow its [their] violation." Haley thereby subjected humans' very existence (and disappearance) to the rule of Metalaw. The two rules preserved the need to protect a state's airspace sovereignty. Thereby, even if Haley aimed to limit national sovereignty severely, he made sure to address all the philosophical and political presuppositions underlying the precept to the best of his knowledge.

Despite the fact that the scenario of crewed flights still lay at the core of the imaginary in which Haley's discourse operated, radio contact with other intelligent beings was of primary importance. Haley considered specifically the uncrewed satellites of the US and the USSR. He did not discuss the rule of electromagnetic encounter, more specifically, radio signal interference. Nonetheless, radio contact was again indirectly implied when he argued next to form an international body of law to deal with space flight under the form of an "Authority to protect inhabitants of other worlds on the basic principle that no visit will be allowed until intelligible contact has been made and the Authority is satisfied that no physical or psychological hazard exists to either the explorer or the explored." The fact that Haley recognized the capability to communicate with extraterrestrial beings shows the status of such a scenario. Communicating with other beings intelligently represented a prerequisite to physical contact also because it was technically possible to communicate through radio before it was technically possible to land somewhere else where intelligent life might exist.

6. Conclusions and Discussion

This article revealed an evident concurrence of the prospect of Soviet presence in space on equal footing with the US and the question of contact with extraterrestrial intelligence. Contact with other intelligent beings constituted a real concern for regulating the technology that would make it possible for humans to empirically reach out (extra)terrestrially and to one another. In facing the presence of the Soviet Union in space, the notion of extraterrestrial radio contact acted as an agent of change in the internationalized astronomical community of the mid-1950s. The question of extraterrestrial intelligence appeared as a necessity with the advent of the Space Age. It encapsulated the need to separate, measure, and divide the space above the planet. Expressing this need's urgency has not been seen until now in connection with the idea of contact with extraterrestrial intelligence, despite the clear historical evidence. The relational character and the agency of the notion of extraterrestrial intelligence, mediating international affairs and taking part in law-making. Overall, extraterrestrial intelligence intervened discursively to open up the legal outer space and influence its jurisdiction. This occurred in a diplomatic context where space actors were presenting the latest techno-scientific developments to one another. Not only did Haley live up to this initial promise to von Karman, but in the mid-1950s, he took it to the next level. The lawyer transported astronautics in a narrative of trans-millennial concerns for the entire human civilization.

The Metalaw moment is important in CETI/ SETI history. It proves that the notion of electromagnetic contact with ETI as a question of the Space Age occurred for the very first time in the mid-1950s as a Western-informed concept with deep international roots. The notion of extraterrestrial intelligence, according to the findings in this paper, was highly relational - mediating international affairs and taking part in law-making. Contact with other intelligent beings in the universe, as

addressed in the Westernized international astronomical community, brought the two regulating needs to the forefront in an exponentially politicized environment. The Soviet Union had recently suddenly announced its satellite program. The two regulating requirements made a crucial difference in how the two space powers would gain hegemony through their space presence. Given the significance of the global satellite program for the US, advertised as a scientific project but underpinning the surveillance system, extraterrestrial intelligence deserves at least hypothetically a front seat in the historiography. The concept of extraterrestrial intelligence defended the right of overflight of satellites above other countries' territories and the need to establish a clear overview of electromagnetic frequencies. Ultimately, extraterrestrial beings became an element of ideology and diplomacy in making outer space law anticipate the former's existence. The so-far unanimously acknowledged 1959 radio astronomy moment of CETI/ SETI's inception was preceded by extraterrestrial intelligence as a tenet of international law to regulate Cold War polarized relations.

The jurisdictional "appearance" of extraterrestrial intelligence and its contact with it at the dawn of the Space Age, to regulate electromagnetic/ radio waves, has both a prehistory and a post-history. In the following months and years after these two main events presented in this article, Haley continued his lobby for Metalaw, international regulations, and international institutional bodies for space. The establishment of the International Institute of Space Law (IISL) took off in 1958 with the First Colloquium on the Law of Outer Space held at the IAC (Haley 1959) and was accomplished in 1960 with Haley as part of the vanguard. The two main historical records analyzed in this article were followed by Haley's actions to put the use of radio waves in space on the agenda of the International Telecommunications Union (ITU). ITU, a specialized institution within the UN, is responsible for international agreements that establish the allocation of frequencies in the electromagnetic spectrum between users globally. This allowed the US to secure its satellite infrastructure during the first part of the Space Age (Gavaghan 1998; Sloten 2002, 2013, and 2022) when the Soviet Union dominated the race. Haley attended ITU sessions in Moscow in May-August 1958 and in 1959 in Los Angeles and Geneva (Doyle, in Hobe 2013, pp. 78-98 and 2024). At the latter, the 1959 meeting, the ITU discussed space communications for the very first time. The US (mostly, Haley) convinced the ITU to convene in 1963 to consider the allocation of more frequencies. The establishment of outer space as separate from airspace also followed in parallel. In 1958, Haley traveled around both sides of the Iron Curtain to hold talks. The latter represented iterations of the same points on outer space law and regulations as those presented in the papers here. When in the Soviet Bloc, Haley emphasized the anthropocentric -- to which he opposed Metalaw, which considered all beings in the Universe -- a character of at-the-time law (Haley 1959, 26-27). This marking difference is visible in the list of papers Haley authored and listed as references to his presiding talk at the First Colloquium on the Law of Outer Space a few months after his tour de force.

Haley's efforts directly related to the space needs of the globalized satellite system that the US was aiming for. This fact has yet to be considered in the chronology of extraterrestrial intelligence of the internationalized astronomical community. Haley was one of the first members of what is to this day the sole international scientific body to deal with all aspects of contact with extraterrestrial intelligence in the post-1959 framework, the International Academy of Astronautics SETI Permanent Committee. However, its origins are recognized, but not explained, by its current members as dating back to Haley's 1956 paper (Walton and Dumas 2015). The IAA was formed in 1960 out of the IAF and resulted from Haley's effort from 1958 onwards as president of the IAF. These facts indicate how the notion of extraterrestrial intelligence continued to perform space techno-science, law and diplomacy at its best. The personification of outer space represented a continuous agency-laden pursuit. The present case study represents only a starting point for exploring the investigation of the existence of extraterrestrial intelligent beings at the center of 20th-century historiography, in line with studies on translational knowledge circulation (Krige 2019; Secord 2004).

Today, the pursuit of Haley finds its legacy in how outer space is still being negotiated, but extraterrestrial beings are not at the center of outer space regulations. Scholars have been emphasizing that the prospect of contact and communication with extraterrestrial intelligence will

radically change views and experiences, cognitively and emotionally alike (Andresen and Thorres 2022). History and related disciplines have yet to unravel the way Haley's legacy has continued to be played out in SETI. Telling the history of the Space Age as a history of contact/ communication with ETI constitutes a tenet for this task. The historian is left pondering, considering these facts, to what extent one can understand the Space Age as a time when the idea of contact with extraterrestrial intelligent beings became feasible. Given the rich arguments for pending unsolved space regulations to draw on maritime law (Roe 2023) and considering two current urgencies, namely the need to protect ocean life (Laffoley et al. 2021) and the need to understand the possibility of war in space enabled by the use of the electromagnetic spectrum (Bowen 2020; Storr 2021; Tawil-Souri) tracing historically the narrative of legally protecting the inhabitants of other worlds in space turns out timely.

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Abbreviations

The following abbreviations are used in this manuscript:

IAC	International Astronautical Congress
IAF	International Astronautical Federation
ARS	American Rocket Society
IGY	International Geophysical Year
SETI/ CETI	Search for/ Communication with Extraterrestrial Intelligence
ITU	International Telecommunications Union
UNESCO	United Nations Educational, Scientific and Cultural Organization
USSR	Union of Soviet Socialist Republics

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