

# Vladimir Mandl

## *Space Law Pioneer*

Edited by Stephen E. Doyle

International Institute of Space Law



2023





Published by International Institute of Space Law  
*IISL Directorate of Studies*  
*94bis, Avenue de Suffren*  
*75015 Paris, France*  
2023

# Vladimir Mandl: Space Law Pioneer

*Edited by Stephen E. Doyle,<sup>1</sup> BA, JD*

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# Introduction

This publication is intended to provide broad access to a remarkable monograph published in 1932 by the Czechoslovakian space law pioneer Vladimir Mandl (1899-1940). The original publication in the German language became relatively rare after the Second World War (WWII) as a result of library and building losses during the war. Herein are included a biographical description of the life of Mandl (Chapter 1), a copy of the original 48 page monograph in German (Chapter 2), and a comprehensive translation of the monograph in English (Chapter 3).

Very few serious jurisprudential writers would venture into an uncharted legal arena more than a quarter of a century before the engineering community could assemble the hardware necessary to function in that arena. Science fiction writers do this routinely, but lawyers tend to be more conservative. At some time prior to 1932, while practicing law, teaching law, and writing in a provincial capital in Czechoslovakia, a remarkably prescient, perspicacious young man, Vladimir Mandl, set forth his thoughts on legal implications of what a handful of other men were then known to be doing with rockets in different parts of the world. The first successful orbiting of a manmade artificial satellite was still 25 years in the future, to occur in October 1957.

Willy Ley, a co-founder of the early, non-governmental organizational and technical rocket development activities in Germany in the late 1920s and early 1930s,<sup>2</sup> was a prolific writer and popularizer of the work of pioneers of astronautics. After fleeing Germany in the mid-1930s, Ley published his first book on rocketry in the English language in 1944, entitled *ROCKETS: The Future of Travel beyond the Stratosphere*.<sup>3</sup> While in Germany in the late 1920s, Ley was a contributing writer of the first German periodical about rocketry, *Die Rakete*, and it was through this activity that Ley was known to the Czechoslovakian lawyer and rocket enthusiast, Vladimir Mandl. Mandl was educated, in part, in Germany, and by 1931 he had joined the German *Verein für Raumschiffahrt (VfR – Society for Spaceship Travel)*. *Die Rakete*, edited by Ley, was that society's journal and members' news magazine.

Having prepared a monograph on space law, Mandl was having difficulty locating a publisher who would put his name on such an *avant-garde* work dealing with men traveling to distant worlds, changing the entire nature of relationships between States and individuals, and having an enormous impact on the entire psychological nature of humanity, as well as changing the form and substance of much of the law known to humankind in the early 1930s. Willy Ley reported, years later, that Mandl had contacted him for help.

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<sup>2</sup> See Winter, F. H., *Prelude to the Space Age, The Rocket Societies: 1924-1940*, Smithsonian Institution Press, Wash., DC, 1983, p. 35.

<sup>3</sup> Ley, W., *ROCKETS: The Future of Travel Beyond the Stratosphere*, The Viking Press, New York, 1944, 287 pp. This work was revised and republished several times in the next quarter century; the latest edition being *Rockets, Missiles, and Men in Space*, The Viking Press, New York, 1968, 557 pp.

Sometime in 1931 a member of the *VfR*, Dr. Vladimir Mandl, who was a practicing lawyer in Pilsen (Czechoslovakia) sent me a manuscript on the legal aspects of space travel, requesting my help in getting it published. It was published in 1932 under the title *Das Weltraum-Recht*. Dr. Mandl's study tried chiefly to show that existing legislation – he used the very strictly codified German law as the means of presenting his case – covered most of the foreseeable legal problems. But Dr. Mandl failed to establish a unified legal point of view.<sup>4</sup>

We excuse Ley's incorrect assessment of the Mandl monograph. We present the work in its entirety herein in German and in English for the reader's study. It should be kept in mind that Willy Ley was neither a lawyer nor a student of law. Ley did report correctly that Mandl's monograph was in two parts, dealing with the present (Part One) and the future (Part Two), but it is not justified to say that Mandl "tried chiefly to show that existing legislation [...] covered most of the foreseeable legal problems". On this point, the reader may form his or her own opinion, after reading the Mandl monograph contained in this work.

It is clearly not the case that Mandl only "used the very strictly codified German law as the means of presenting his case", because, as the reader will see, in addition to references to German law, Mandl included references to British, French, Italian, Portuguese, Swiss, American and international law in his well-researched and well documented survey of the comparative qualities of existing law in a variety of special, relevant subject areas. After the tour of existing law in Part One of the monograph, Mandl releases his imagination and creativity to present his assessment of the needs for new law in the future, the substance of Part Two. But we need not speak for nor interpret what it was Vladimir Mandl wrote or meant to write. We include herein as accurate a translation as we believe is possible, without involving the original author.<sup>5</sup>

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<sup>4</sup> Ley, W., *Rockets, Missiles, and Men in Space* (rev. ed.), Signet Books of the New American Library, Inc., New York, 1969 (paperbound) p. 547.

<sup>5</sup> Here, we devote a few words to the translation, and how it came about. Through the good offices of a German lawyer, writer and recognized expert in air and space law, Edmund Faller, the editor of this volume was provided access to a copy of Mandl's original work, in German. Upon inquiry through attorneys in Bonn, I was informed that J. Bensheimer Verlag, the original publisher, apparently did not survive WWII and that there is no clear company successor. I searched and found a specially qualified translator, retired US Army Lt. Col. Lloyd E. Jones, Jr., who was capable of technical German language translations. Employed by the National Aeronautics and Space Administration, he was knowledgeable about matters of spaceflight, and was willing to take on the translation of Mandl's monograph under reasonable terms. Jones completed his first translation for me in 1978. Subsequently, the National Aeronautics and Space Administration (NASA) sponsored a translation of Mandl's study, which was completed in 1984 by Leo Kanner Associates, Redwood City, California. See Mandl, V., *Outer Space Law: A Problem of Astronautics*, NASA TM-77760, a translation of *Das Weltraum-Recht: Ein Problem der Raumfahrt*, J. Bensheimer Verlag, Mannheim, Berlin, Leipzig, 1932, 48 pp.; translated from the German by Leo Kanner Associates, Redwood City, California, 94063. I provided the Kanner Associates translation to Jones with a note that there were both substantive and stylistic differences in his and the Kanner translations. I requested that he reconcile the differences, and he did.

The Kanner Associates translation appears to have been done by a well-qualified literary translator with excellent grammatical awareness and a literal translation capability. Jones, on the other hand, brought a familiarity with the technical terminology and concepts that permitted less precise literalness to adapt traditional language uses to modern notions and terminology of astronautics and spaceflight. The Kanner translation becomes mired in literalness at places, where, occasionally it is difficult to discover the intended meaning

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of certain passages. Jones worked diligently to reconcile the two translations. In many areas he adjusted his previous phrasing to more efficacious language suggested by the Kanner translation, and he clarified in a variety of places mistranslations of his own first effort and the Kanner translation, with the benefit of both translations for comparative guidance. Consequently, the translation that found its way into this book owes its existence to Lloyd E. Jones, Jr., and to Leo Kanner Associates. It is probably the best translation that could be made half a century after the author's death.

# Chapter 1. The Life of Vladimir Mandl

Before presenting the text of Mandl's remarkable monograph, it is appropriate to review the life of this creative pedagogue and author in order to appreciate the knowledge, foresight, and courage this outstanding monograph must have required. A later countryman of Mandl's, Vladimir Kopal, a former senior official of the United Nations, renowned writer and consultant on matters of space law and related international organizations, and a distinguished scholar and professor of international law in Prague, published an insightful survey of the life of Mandl.<sup>6</sup> By permission of Professor Kopal, the following information is drawn, with modest editing, from a Kopal biography of Mandl.

In the industrial city of western Czechoslovakia, Pilsen (Plzen), famous for its Skoda engineering enterprise and large breweries producing the famous Pilsner beer, Vladimir Mandl was born on 20 March 1899 and there lived the major part of his life. He became a pioneer in astronautics in Czechoslovakia and, in particular, author of the first monograph on legal problems of outer space flights.

The Mandls lived in Pilsen for generations. Vladimir's father, Dr. Matous Mandl, was an attorney and his son, although an engineering enthusiast since his youth, decided to follow his father's career. After studies at the Pilsner High School, Vladimir entered the Czech Faculty of Law, Charles University of Prague, where he graduated on 21 November 1921, at the age of 22. Following graduation, he first practiced for a short time at a District Court in Prague and later in an attorney's office. In March 1927 he opened his own law office in Pilsen.

While still a student, Vladimir Mandl developed a deep interest in legal theory, especially in private law. Between 1921 and 1926 he was a member of the seminar on civil law procedure directed by the distinguished Czech scholar Professor Václav Hora. In 1925 Mandl submitted an interesting report on problems of evidence to the first Congress of Czechoslovak Lawyers. Later (1926), he wrote a monograph on Czechoslovak civil law regarding marriage. Finally, Mandl completed his specialization in civil law procedure by postgraduate studies at the University of Erlangen, in Germany, where he obtained a doctorate with his dissertation on the law of damages.

Having qualified for the bar with such excellent scholarship, Dr. Vladimir Mandl was free to dedicate his energy to actual legal problems created by industrial and technological developments of the 1920s and 1930s. First, he published a series of essays on the legal aspects of motor vehicles. These he amplified, in 1929, into a monograph on the subject.

Simultaneously, Mandl studied legal problems of aviation, which was developing rapidly in the years following the First World War. His enthusiasm for aviation was so great that he became a licensed pilot. The result of Mandl's intensive work in this field was his

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<sup>6</sup> The material in this section is drawn from Kopal, V., "Vladimir Mandl: Founding Writer on Space Law", in Durant and James (eds.), *First Steps Toward Space* 87-90, Smithsonian Institution Press, Washington, DC, 1974. [Edited and slightly expanded by permission of Vladimir Kopal, the original author.]



study on air law,<sup>7</sup> the first systematic treatise on this new subject written in Czechoslovakia. Following a historical introduction, the author dealt with Czechoslovakian air regulations. The second part considered general problems of air law, such as liability arising from international air transport contracts, conflicts of aviation law, customs, and insurance against damage caused by aircraft. The final chapter dealt with air warfare.

Dr. Mandl submitted his book on air law as his advanced work in residence, hoping to gain a professorship at the Faculty of Mechanical and Electrical Engineering, Czech Technical University of Prague. Documents deposited in the Archives of the University of Prague demonstrate that Mandl fulfilled admirably the conditions required and that his scholarly work and knowledge were highly respected by the Accreditation Commission.<sup>8</sup> On 20 September 1932 the Czechoslovak Minister of Education confirmed the decision of the Board of Professors of the Faculty concerning the granting of *venia docendi* to Dr. Vladimír Mandl for the subject, Law of Industrial Enterprises.<sup>9</sup>

Although appointed for a different course, air law remained his concern, as witnessed by his study of the Paris Convention on the Regulation of Aerial Navigation and by the substantial article on parachutes which he published in 1935 in French.<sup>10</sup> Beginning with the academic year, 1933–34, the course given by Prof. Vladimír Mandl on industrial law appears in the university curriculum, as it did in the year 1938–39. As is known, German troops occupied the whole of Czechoslovakia in March 1939, and in autumn of that year the Nazis closed all Czech universities. That also meant the end of Mandl's university teaching.

During the last few years before German occupation, Professor Mandl participated in the search for documents and objects for the aeronautical collection of the National Technical Museum in Prague.<sup>11</sup> For this purpose he visited the foremost foreign museums and reported on them in Czech journals. For example, in 1937 he visited the Frunze Air Museum in Moscow, and in the summer of 1938 the aviation collection of the Smithsonian Institution in Washington.<sup>12</sup> He was also familiar with the aeronautical collections in Paris and Munich.

The loss of independence in 1939 interrupted the successful development of Czechoslovak aviation. Shortly before those events, Mandl concluded his article about the Smithsonian Museum by saying: “The glorious past and the promising present of Czechoslovak aviation will certainly be reflected in one of the best collections of the Czechoslovak Technical Museum”. Mandl thought about the Museum also during his

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<sup>7</sup> Mandl, *Letecké právo* [Air Law] (Pilsen, 1928).

<sup>8</sup> In a report of the Accreditation Commission on Dr. Vladimír Mandl, dated 6 February 1930, the “significant juridical erudition of the author, great knowledge of literature, unusual diligence and devotion to scientific work” was stressed. In his accreditation colloquium, Dr. Mandl received the unanimous approval of the seven examiners, on 20 April 1930. On 30 April 1930, he delivered a test lecture before the Board of Professors on “Liability of Contractors for Damage”; and at a meeting of the Board, when a vote in regard to his appointment was taken among the 24 voting members, 23 votes were cast for and only one against Dr. Mandl.

<sup>9</sup> Decree of the Minister of Education 89212/31-IV/3, of 30 September 1932.

<sup>10</sup> Mandl, “Mezinárodní úmluva o úpravě letectví ze dne 13. října 1919” (Praha, 1932); *Le Parachute, La revue générale de droit aérien*, nos. 2, 3, 4, 1935 (reprint, Paris: Les Editions Internationales, 1935).

<sup>11</sup> In a letter dated 28 February 1939 and addressed to one of the main organizers of that collection, Ing. Karmazín, Mandl wrote with characteristic modesty: “I have followed the history of aviation since its beginning during my childhood, of course, only as an amateur, not a scientist. It will be a great pleasure for me to discuss with you this subject of our common concern”. In a series of letters Mandl offered original suggestions concerning the organization of the collection.

<sup>12</sup> “Aero-muzej im. M.V.Frunze v Moskvě”, *Letectví* [Aviation], Praha, August 1937, p. 365; and “Aircraft Building ve Washington, U.S.A.”, *Letec* [Aviator], October–November 1938, p. 165.

“involuntary holidays” in the sanitarium in Ples when personal illness was added to the tragedy of his nation.<sup>13</sup>

His keen interest in aeronautics led Vladimir Mandl to think about the more advanced means of space transport. While the pioneers of astronautics tested their modest rockets, Mandl thought of them as instruments of navigation in space which would someday require new rules of law – space law. It was in this new field that he was able to apply creatively his broad knowledge, which went well beyond the usual limits of legal scholarship, and which made it possible for him to contribute to the technical aspects of rocketry as well. The results of his studies and thoughts in astronautics fall into two categories.

The first is found in his book, “The Problem of Interplanetary Transport”, which appeared in 1932 in Prague.<sup>14</sup> His treatise opened with a brief survey of developments in astronautics, in which he described the work of Konstantin Ziolkovsky (USSR), Dr. Robert H. Goddard (USA), Dr. Franz von Hoefft (Austria), Professor Hermann Oberth (Germany), and others. In the second part he explained the basic principles of rocketry. The book concluded with his own drawing of a high-altitude rocket. Both solid and liquid propellants would have been used. Mandl received a Czechoslovakian patent on a solid rocket design.

In a second category, however, is the important work by which the name of Prof. Vladimir Mandl is recorded forever in the history of astronautics. It is contained in his monograph on *The Law of Outer Space: a Problem of Space-flight*, for which he finally found a publisher in 1932 in Germany.<sup>15</sup> In this concise book Mandl placed before the reader many thoughts which have not lost their relevance despite the passage of time.

Attention should first be drawn to his concept of the law of outer space as an independent legal branch, based on specific instruments of spaceflight and governed by different principles than is the law of the sea or the law of the air. Although Mandl considered examples of other legal branches for analogies in special cases, he stressed the need for specific regulation of legal problems of astronautics. The first part of his monograph treats selected problems of extant civil law, criminal law, and international law concerning outer space.

Still more interesting is the second part of the study, “The Future”. It is not science-fiction, but a set of serious predictions [some of] which have become reality. For example, Mandl opposed the usual idea of sovereignty as applied to space without limits and asserted that sovereignty of States govern only the adjacent atmospheric space. Beyond the “Earth coastal spaces” a vast area begins which is “free of the jurisdiction of any earthly State, *coelum liberum*”.<sup>16</sup>

The concluding part of Mandl’s analysis is preceded by his prediction of a surprising new progress in physics, chemistry, and engineering that would correspond to a similar epoch of the 19th century – in fact, a vision of the scientific and technical revolution of our times. Moreover, as a consequence of the penetration by men into outer space, Mandl predicted a substantial change in relations between the State and its nationals which would not be based on State domination, so that both State and its nationals would become equal subjects. According to Mandl, territory would lose its importance as one of the basic dimensions of each State, and new communities based exclusively on personal adherence

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<sup>13</sup> “Let us hope to see as soon as possible the accomplishment of your life work – the Air Museum”, wrote Dr. Mandl in a brief, handwritten letter to Ing. Karmazín dated 22 September 1940, only a few months before his death.

<sup>14</sup> “*Problém Mezihvězdné Dopravy*” (Prague, 1932), 100 pp.

<sup>15</sup> *Das Weltraum-Recht: Ein Problem der Raumfahrt*, Mannheim, Berlin, Leipzig: J. Bensheimer, 1932, 48 pp.

<sup>16</sup> *Idem*, p. 33.

would emerge. People would retain such new nationality when going to outer space and other planets.

Finally, according to Mandl, space law would become a new set of norms which will be “a manifestation different in substance from contemporary jurisprudence”.<sup>17</sup>

Vladimir Mandl died on 8 January 1941 at the age of 41 and was buried on 13 January 1941 at the Central Cemetery in Pilsen.

Prof. Dr. Vladimir Mandl is recognized by the community of space lawyers as the founding writer in this new branch of law who embodied some of the characteristic features of the people from a small country in the heart of Europe, Czechoslovakia. Its best creative men, whether scientists, philosophers, or artists, always blend into their ideas the particular interests of their own nation in progress and freedom with the dreams and concerns of all of mankind.

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<sup>17</sup> *Idem*, p. 48. In the 1930s Mandl was also interested in some more general problems of economics, science and philosophy. He explained his economic views in the following studies: *Technokracie, hospodársky systém budoucnosti?* [Technocracy – Economic System of the Future?] (Prague, 1934); *Prírodovední národohospodárská teorie* [Scientific Economic Theory] (Prague, 1936); *Stát a vědecká organizace práce* [State and Scientific Management] (Pilsen, 1937). From among his other writings the following studies should be mentioned: “Vědecká metoda Einsteinova relativismu” [Scientific Method of Einstein's Relativism] in *Ceská mysl, časopis filosofický* [Czech Thought, a Philosophical Journal] (Prague, 1935), vol. 31, no. 3-4; *Příčinná teorie právní* [Causal Theory of Law] (Prague, 1938); and *Válka a mír* [War and Peace] (Prague, 1938).