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Vladimír Mandl, Alex Meyer, Welf-Heinrich, Prince of Hanover, Friedrich Wilhelm Von Rauchhaupt
Early Writings in German on the Young Discipline of Space Law

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This year's Nandasiri Jasentuliyana lecture in Prague is primarily devoted to the history of space law with a specific focus on the work of *Vladimir Mandl.* Therefore, the author's contribution will first come up with an evaluation of *Vladimir Mandl's* opus magnum, the pioneer work entitled "Das Weltraumrecht – Ein Problem der Raumfahrt" (Space Law – A Problem of Space Flight) of 1932. Moreover the work of another pioneer of space law will be described. *Alex Meyer* (1879 – 1978) belonged to those who had accompanied the development of space law from its early days. As early as 1952 Meyer published his first article on space law, entitled "Legal problems of Space Flight" in the Annual Reports of the British Interplanetary Society (1952, pp. 353–354), as well as an article, entitled "Weltraumrecht" (Space Law) in the German Journal of Air Law, vol. 1 (1952, pp. 234 – 236).

Finally, this article will not only try to evaluate their pioneer contributions to the development of space law. It will also include a brief look into the work of *Friedrich von Rauchhaupt* and the *Prince of Hanover*.

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1. Introduction

My presentation intends to give an overview on the early German writings of space law. I will exemplify the important contributions made in German to the science of space law by first highlighting, of course, one of the earliest writer's contribution. This was the Czech national *Vladimír Mandl's* pioneer work "Space Law – A Problem of Space Flight" which was published in German as early as 1932.[1] Moreover, some of the works of *Alex Meyer* will be assessed who for almost 25 years had been the Director of the Institute of Air and Space Law, reopened by him in 1951 at the University of Cologne. Finally, the work of *Friedrich Wilhelm von Rauchhaupt* shall be given a quick consideration in this regard as well as a brief account is given to the doctoral thesis of the *Prince of Hanover*. Of course, the limited place available does not make it possible to come up with very long evaluations and contributions of the various works of these authors. Rather it is the aim of this presentation to paint the picture of the contribution to the young discipline of space law made in German, which is quite impressive for different reasons: The work of *Vladimír Mandl* is so impressive because it was so early and so informed when he wrote about space flight and space law. The work of *Alex Meyer* accompanied the increasing international space law from its very beginning in the late 1950's. And the same can be said for *Friedrich Wilhelm von Rauchhaupt* and the *Prince of Hanover* who, with the scope of their writings, made an interesting contribution to this young scientific field.

2. Contributions of the Authors

2.1 Vladimír Mandl (20.3.1899 – 8.1.1941)

The career of *Vladimír Mandl* has already been described. *Vladimír Mandl* became only 40 years old. He was an advocate, a pilot as well as active in the scientific field. His most important work is the earliest contribution on space law published in 1932 and entitled "Space Law – A Problem of Space Flight". It is published in German and gives a surprisingly wide-reaching overview on the possible scope of what could be considered space law at that time. You may be aware of the fact that in 1932, air flight had just taken off the ground with the main international conventions in place, namely the Paris Convention of 1919 and the Warsaw Convention of 1929. *Mandl* had, by the way, edited a commentary on the Czechoslovakian Air Code of 8 July 1925. This is a fine work which, at the level of science of 1929, gives an overview of the then valid national air law of Czechoslovakia.

[1] Vladimír Mandl, Das Weltraumrecht – Ein Problem der Raumfahrt, J. Bensheimer, Mannheim/ Berlin/Leipzig, 1932.

Most important in our respect is of course *Vladimír Mandl's* small book on space law. It is a book of just 50 pages filled with many fresh ideas. As has been said, it is remarkable because it was published 25 years before the first space flight took place by the launching of the artificial satellite Sputnik 1 in 1957. Right at the beginning[2], *Mandl* makes it clear that space law is something that needs a completely fresh look to be taken. It would be an area of law that would include public law as well as private law[3]. With regard to a definition of space object, this would be difficult because analogies to the automobile sector or to international sea law would fail. Therefore, the only possible analogy would be the one to air law[4]. Here, *Mandl* points to the national air laws of Germany, the United States of America, and France.

Then, *Mandl* asks in Part I of his book the very interesting question how to apply air law to human activities in outer space. His answer is that this should be done by analogy whereby he pleads not for a general, but only for a special analogy just in cases that really fit.[5] Therefore, the respective provisions of Article 1 paragraph 1 of the German Air Code which is comparable to provisions (paragraphs 905, 906) of the German Civil Code (BGB) could be applied by analogy also to space flight: so one could say that any proprietor of land was entitled to prohibit the overflight only up to such altitude that he could effectively control.

Moreover, *Mandl* strongly pleads for a deviation from the general German Civil Code provision of paying damages for liability based on fault because in general transportation law there would be more provisions allowing for such liability not being based on fault.[6] Such result would also be supported by the respective provisions of the French Code Civile (Art. 1384) and of the Italian Codice Civile (Art. 1153). Finally, he insists on the State's sovereignty over the airspace as already being part of customary international law, which would also be valid for space flight although no concrete international agreement had been drafted yet.[7]

The second part of this remarkable book is devoted to the future.[8] *Mandl* expects from legislators to become active and to react to new challenges of space flight by first

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2 Note 1, p. 1.
3 Note 1, p. 3.
4 Note 1, p. 6.
5 Note 1, pp. 7, 8.
6 Note 1, pp. 10, 11.
7 Note 1, pp. 18, 19.
8 Note 1, pp. 20-31.

fundamentally revising international air law.[9] There should be the requirement of a license for any launcher[10]. Third party liability should be strict liability whereas in the framework of contracts, liability should be applicable only on the basis of fault[11].

Great expectations should be based on the entry into outer space in terms of exploiting its rich resources. But *Mandl* does not elaborate whether or not it would be legal to extract and use of those resources. One must assume that he is of this opinion because one cannot find any opposite statement. Moreover, *Mandl* elaborates on spaceports: space flight being privileged it would be easier for people being engaged in this domain to expropriate property for building new spaceports than this would be possible in other fields.[12] Very importantly, States should reflect about the upper limit of their sovereignty.[13] Until now (1932), there would be no upper limit of airspace. Airspace would be regarded as belonging to the territory as its "component part" (see Art. 97 of the German Civil Code). According to the doctrine of territorial government, airspace would end where the air would end.[14] And then there would come outer space where no sovereignty would govern.[15] Any spaceship would still have its nationality comparable to airships.[16] Moreover, it would be legal to build stations in outer space, but spaceships should not be used for warfare purposes.[17] In a sense, you can very clearly see here modern ideas and unresolved questions like the one of the delimitation of airspace and outer space.

Then *Mandl* continues that still tremendous efforts would be necessary in order to make spaceflight a reality.

Furthermore, very interestingly in the fourth subdivision of this second part, *Mandl* starts to reflect on the consequences of spaceflight for government and for the State. He anticipates that from the moment on where it is relatively safe that one can live in outer space or on celestial bodies and that the living conditions would be bearable for human beings, many people on Earth would decide to eventually settle down in outer space.[18] But

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9 Note 1, pp. 20, 21.
10 Note 1, p. 23.
11 Note 1, p. 25.
12 Note 1, pp. 29, 30.
13 Note 1, p. 31 et seq.
14 Note 1, p. 32.
15 Note 1, p. 33.
16 Note 1, p. 33.
17 Note 1, p. 33.
18 Note 1, p. 38 – 41, 41-42.

what would be the consequence? Would such be a loss of nationality when he/she would conquer outer space and settle down? Or would one need to terminate such nationality? *Mandl* negates both questions and develops a very important principle,[19] namely that citizens travelling by spaceships through outer space would carry with them their nationality. This would have as a consequence that onboard a spaceship the nationality of the sending State would still be the leading one.

But – and this makes his remark very interesting – he finds it only logical that it would not be possible to continue with the same notion of State and of law when new spaces beyond sovereignty would be opened for colonization.[20] As soon as any national would be free to escape from State sovereignty on Earth by conquering outer space, both, the new colony in outer space as well as the former "State", would lose this quality. *Mandl* compares them to private society (Privatgesellschaft)[21] which would have certain claims vis-à-vis the individual, but which would leave the individual in a relatively free position.

This interesting new idea shows that *Mandl's* work was not confined to the elaboration of parallels through analogy to existing law and particularly air law, but that he was very creative. And if one takes a critical look at *Mandl's* pioneer work on space law, it is astonishing how much realism he brings in here. The issue of delimitation is still not solved by today, the idea of carrying nationality into outer space, the designation of outer space as being beyond national jurisdiction, all these are concepts that still exist and were legal principles only 25 years later. Thus, *Mandl* was a visionary who without any doubt paved the way for any further fruitful thinking.

Besides this fundamental work, it should be mentioned that *Mandl* in his rather short life published other books in German. As mentioned, there was the Commentary on the Czechoslovakian Air Code published in 1929[22], a book on the German Civil Law of Damages published in 1932[23], a book on the natural theory of law published in 1936[24], a book on procedural law of marriage of 1926[25], a book entitled "Essays of a European Technocrat"[26] which deals with measuring the economic situation to natural science methodology specially based on physics.

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19 Note 1, p. 43 et seq.

20 Note 1, p. 44.

21 Note 1, p. 44.

22 Stiepel, Reichenberg 1929.

23 Marcus, Breslau 1932.

24 Ebering, Berlin 1936.

25 Pilsen 1926.

26 Wetzel Publishing, Los Angeles 1936.

And finally, another small book is worthy of being mentioned which is entitled "The Rocket for the Exploration of Great Heights – A Contribution to the Problem of Spaceflight" published in 1934.[27] This little work aims at having some fresh look at the rocket problem. I was already stimulated by the research of *Tsiolkovsky, Oberth* and most recently *Goddard,*[28] to the works of which *Mandl* refers. His booklet is just a reflection of existing sources, pointing them to current problems. In a first part[29], the author very succinctly describes the then modern rocket techniques which do still exist as a basis. When he describes a rocket consisting of several stages, he considers it possible to reach a height of approximately 250 km.[30] This well illustrated little booklet of 15 pages shows *Vladimír Mandl* not only as a lawyer, but also as a technical expert in space flight.

In summary, one is just amazed by the tremendously rich work of this sophisticated thinker. An expert in air law, in German marriage law, and other fields of law, he is also very knowledgeable in space science, rocket technology, and offers, in 1932, a tremendously innovative study. His plead for new rules, not derived by analogy, for a regime of strict liability, jurisdiction in outer space, and for nationality is all based on the assessment of outer space being legally different from the sovereignty-based system of the airspace. Having seen this so clearly is a remarkable achievement in the year 1932.

2.2 Alex Meyer (15.12.1879 – 21.8.1978)

Alex Meyer was born even 20 years before *Vladimír Mandl*. He lived for almost a century. Born in 1879 in Berlin, he died in 1978 in Zurich. Although *Alex Meyer* became famous as an air lawyer, he did also important research in the field of space law. And it is clear that his profound knowledge and work of the first era of his career had a great impact on his work in space law. Both *Mandl* and *Meyer* shared practical expertise and experience. Whereas *Vladimír Mandl* worked as an attorney, *Alex Meyer* started his career as a judge in what is today the Polish City of Szczecin (Stettin). After his service in the army from 1914 to 1917, he was serving in the Ministry of the Interior and Justice in Germany in Düsseldorf. In 1939, he got a call from New York University, but the German authorities did prolong the requirements for the granting of a visa to the United States for *Alex Meyer* so long that he had to refuse the offer. In 1939, *Meyer* emigrated to Zurich. After the Second

[27] Hachmeister, Leipzig/Berlin 1934.

[28] Note 27, p. 3.

[29] Note 27, pp. 3-7.

[30] Note 27, p. 11.

World War, he came back to Germany and installed himself in Cologne. He initiated the re-opening of the German Institute of Air Law which had been founded in 1925 by Prof. *Otto Schreiber* in Königsberg (Kaliningrad). In 1953, he became Honorary Professor at Cologne University and taught there until 1974. His more than 200 publications cover basically air law subjects. Here under consideration are, however, the 22 publications that are devoted to space law questions.

What makes his contribution so interesting is the fact that *Meyer's* publications start five years earlier than space flight began. Here we find a publication in the new German Journal of Air Law (today German Journal of Air and Space Law, ZLW) of the year 1952. This article more or less served as the justification for *Alex Meyer* as editor of the German Journal of Air Law to devote his Journal also to questions of space law matters. For this, he continued the description of the various technical problems involved and quoted *Vladimír Mandl* who some 20 years before *Meyer's* writings simply believed in space flight and in space law.

Meyer himself outlines in this paper which was read to the 3rd International Astronautical Congress in Stuttgart of 5th September 1952 the major problems of the future discipline of space that had to be identified[31]. First, he answers the question of the overall usefulness of a distinct science of space law in the affirmative. He particularly denies any possibility of analogies from air law simply because the fundamental structure of the sovereignty-free outer space would thus not allow for analogies. It would still be very important to have an insight into the positioning of a boundary which *Meyer,* in 1952, thinks to place at an altitude of 200 to 300 km above sea level. Thus, the questions of the legal nature of outer space, the legal obligations in the conduct of space activities, and the legal treatment of so-called space stations are at the forefront of *Meyer's* interests. He correctly identifies outer space as not being subject to any State's sovereignty.[32] In principle, no analogy from any other law should be used.[33] There would be no right of overflight by rockets through foreign airspace even in the process of launch or landing.[34] The placement of space stations would at least be possible over the High Seas.[35] Any establishment of a space station in outer space would, on the one hand, have to acknowledge that outer space is free of the State's sovereignty.

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31 Rechtliche Probleme des Weltraumflugs (Legal problems of space flight), in: Zeitschrift für Luftrecht (1953), pp. 31-43.

32 Note 31, p. 34.

33 Note 31, p. 37.

34 Note 31, p. 38.

35 Note 31, p. 40.

On the other hand, stations in outer space would be subject to the jurisdiction of the respective launching State. And finally, *Meyer* very correctly observes the great potential of outer space to become a theatre of war which leads into his very clear conclusion that any future legal instrument should have provisions on the prohibition of the use of force in outer space.[36]

One can thus see very clearly how farsighted *Meyer's* considerations were. He insisted that the legal status of outer space had very clearly to be distinguished from the airspace. Moreover, *Meyer* made use of the concept of jurisdiction.

Thus, in another paper published in the German Journal of Air Law in 1958[37], *Meyer* critically discussed some of the writings of Prof. *John Cobb Cooper*, at that time the Director of the McGill Institute of Air and Space Law. In his paper entitled "Critical remarks on recent discussions concerning legal problems of outer space", *Alex Meyer* strongly objects to *John Cobb Cooper's* proposal of a contiguous zone between airspace and outer space, comparable to the contiguous zone between the coastal sea and the High Seas. Rather, he insists on outer space being free of any sovereign rights. With this, he rejects a proposal of *Hingorani* of allowing exercise of sovereignty in outer space. *Meyer* considers it important to come up with an international agreement that should demarcate the boundary between airspace and outer space. He considers the International Civil Aviation Organization as an appropriate organization for drafting this agreement.[38]

Of great interest is, furthermore, a paper again published in the German Journal of Air and Space Law in 1962[39] in which *Alex Meyer* particularly assesses some opinions of *Quadri* and *Chaumont*. Their functional approach to air and space law that would make air and space one functional unit under one legal order and would differentiate according to the respective activity, i.e. the functions that would be fulfilled in the aerospace medium, would not be a satisfactory one. According to *Meyer,* the significant difference of airspace with State sovereignty and outer space as a sovereignty-free area would make a different legal treatment necessary. The delimitation–necessary only when commercial space

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36 Note 31, p. 42, 43.

37 Kritische Bemerkungen zu neueren Erörterungen über die Rechtsprobleme des Weltraums, in: Zeitschrift für Luftrecht (1958), pp. 194-207.

38 Note 37, p. 204.

39 Die Bedeutung der Festsetzung einer Grenze zwischen Luftraum und Weltraumgebiet – Kritische Bemerkungen zu den Arbeiten von Chaumont und Quadri, in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1962), pp. 106-121.

transportation would become feasible[40] – would be difficult to make because, according to *Meyer*, there was no "natural physical boundary"[41]. *Meyer* strongly submits that there is a close relationship between State territory and airspace which would find its expression in Art. 1 of the Chicago Convention where contracting States "recognize" the State's sovereignty over the territory.[42]

In a later publication *Meyer* summarizes the topical questions concerning space law.[43] He thereby excludes the possibility of the existence of other intelligent life in our solar system.[44] Therefore following would be the topical questions: the right to overfly State territory by a spacecraft, the scope of human activities in outer space, the question of legal responsibility. If one takes up this concept in the conduct of space activities, the scope of rights of States when landing on a celestial body, and finally the legal treatment of space objects coming back from outer space on Earth. *Meyer* stresses that, based on a resolution of the International Law Association, time would be ripe for the codification of some space law provisions. There should be some kind of responsibility for the conduct of space activities incumbent upon the "holder of responsibility".[45] But it would be important that no sovereign rights in outer space or on celestial bodies would be created.[46] In his article "aerospace sovereignty and outer space developments" published in the German Journal of Air and Space Law in 1965[47], *Meyer* again expresses his reservation against the functional theory as proclaimed by Prof. *John Cobb Cooper*.

In another long article on "Space Law and Government" published in the German Journal of Air and Space Law – a review of the book of *Andrew Haley* under the same title, *Alex Meyer* addressed all critical questions of space law of that time. Among those, only some will be highlighted here. There is, for example, the limited scope of any possible analogy to air law or to the law of the sea to which *Haley* as well subscribed. *Andrew Haley* as well as *Alex Meyer* were, however, both very critical of a general transit right in air law

40 Note 39, p. 114.

41 Note 39, p. 117.

42 Note 39, p. 120.

43 Die Raumfahrt als Ursache rechtlicher Probleme, in: Raumfahrt wohin?, 1962, pp. 166-179.

44 Note 43, p. 167.

45 Note 43, p. 173.

46 Note 43, p. 178.

47 Die Staatshoheit im Luftraum und die Entwicklungen im Weltraum – Bemerkungen zu der Abhandlung von Professor Cooper, Das Abkommen von Chicago nach 20 Jahren", in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1965), pp. 296-311.

as well as in space law. As to the delimitation between airspace and outer space, *Meyer* is closer to *Haley's* proposal to use the van-Karman line for demarcation and raises again doubts against functional approaches of *Chaumont* and *Quadri*. Without an own statement remains Meyer's report of *Haley's* idea of a registration of space vehicles, but he very strongly supports any concept of opening outer space for peaceful purposes only.[48] Finally, with regard to liability and responsibility, *Meyer* supports *Andrew Haley's* idea of a strict liability as the basis of liability for space activities.[49]

Furthermore of great interest is the commentary of *Alex Meyer* on the Outer Space Treaty of 1967, published in the German Journal of Air and Space Law of that year.[50] In his brief analysis, *Meyer* first summarizes the drafting history.[51] Among the provisions of the Outer Space Treaty, *Meyer* stresses the importance of Article IV on the peaceful uses of outer space and of Article VIII on the duty to give back a space object after its return to Earth. He regrets that the Treaty does not contain any delimitation between airspace and outer space and maintains that the rules on responsibility of States would be not sufficient.[52] These ideas are reiterated in an article on the term "peaceful" in the light of the Outer Space Treaty, a paper prepared for the Colloquium on Space Law at the 19th Congress of the IAF and published in the German Journal of Air and Space Law of 1969[53] as well as in a paper entitled "Legal Problems of Outer Space – A Contribution to the UN Space Conference in Vienna of 1968, published in the German Journal of Air and Space Law of 1969.[54]

Finally worth mentioning is the paper the almost 95 years old *Alex Meyer* gave instead of a farewell lecture in 1974 at the occasion of his retirement from his function as Director

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48 Note 48, p. 20.

49 Note 48, p. 22, 23 et seq.

50 Der Weltraumvertrag, in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1967), pp. 65-77.

51 Note 51, p. 65, 66.

52 Note 51, p. 71, 72.

53 Die Auslegung des Begriffs „friedlich" im Lichte des Weltraumvertrags, in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1969), pp. 28-39.

Rechtsprobleme des Weltraums – Ein Beitrag zur UN-Weltraumkonferenz in Wien (14.-27. August 1968), in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1969), pp. 10-27.

54 Welf-Heinrich Prinz von Hannover, Luftrecht und Weltraum, Hannover 1953.

Introduction: A light from the past to show up the legal problems of our age of space, in: Colloquium on the Law of Outer Space 1958, pp. 1-4.

World Space Law: The Basic Principles for its Codification, in: Colloquium on the Law of Outer Space 1959, pp. 125-128.

of the Institute of Air and Space Law and Professor of air and space law at the University of Cologne. The lecture basically focuses on air law developments, but *Meyer* also mentions that as of the time of his writings in 1974 space law was commonly recognized. There were, at that time, three international agreements, namely the Outer Space Treaty, the Rescue Agreement, and the Liability Convention and some principles on remote sensing and direct broadcasting by satellites in work. *Meyer* gave an overview on the development of the Institute that since 1960 was an Institute of Air and Questions of Space Law.

2.3 Welf-Heinrich, Prince of Hanover (1923 – 1997)

The first legal dissertation on matters of space law was successfully defended in 1953 by *Welf-Heinrich Prince of Hanover:* entitled "Air Law and Outer Space"[55] it made some important legal observations concerning the new area of outer space. The Prince considers outer space to be a free area to which by analogy some of the air law rules could be applied. Moreover he *inter alia* develops the concept of jurisdiction and control over objects placed in outer space.

2.4 Friedrich Wilhelm Von Rauchhaupt (13.8.1881 – 28.1.1989)

Finally, some of the work of *Friedrich Wilhelm von Rauchhaupt* shall be mentioned. *Von Rauchhaupt* was professor of international law at the University of Heidelberg. Although his oeuvre with more than 200 publications reaches from German civil law over the law of Spain and of the United Kingdom to some questions of legal theory, the basis was certainly laid in public international law and in his later career, in a growing way also in space law. One should not forget that, comparable to *Alex Meyer*, he was already in his late seventies when the space age started – he passed away only at the age of almost 107 years.

After early writings on "A light from the past to show up the legal problems of our age of space" in 1958[56] or "World space law: the basic principles for a codification" in 1959[57], and the short note on "The problem of damages in space law" from 1961[58], he published a first programmatic writing in German, entitled "Über Weltraumrecht" (On Space Law) in 1962[59]. *Von Rauchhaupt* compares mankind conquering outer space with Spain in 1492

55 Über Weltraumrecht, in: Zeitschrift für Luftrecht und Weltraumrechtsfragen (1962), pp. 227-233.

56 Note 59, p. 230.

57 See e.g. The Law of ESRO and ELDO, in: Colloquium on the Law of Outer Space 1966, pp. 210-212.

58 The Space Law 1957 – 1967, in: Colloquium on the Law of Outer Space 1967, pp. 222-229.

59 Note 62, p. 228.

conquering America and thus a need for a new law. Neither air law nor the law of the sea would really fit, but space law had to be a law *sui generis*. *Von Rauchhaupt* refers very solidly to the question of delimitation[60], to the question of sovereignty of States in outer space and to the need for having a law of damages either in outer space or on Earth. He very much misses the existence of a general international law on traffic with the respective regulatory consequences eg.: in the area of avoiding collisions in outer space.

Furthermore, besides two short articles on the law of ESRO and ELDO[61], both being published in 1966, in the volume of the 1967 Beograd Colloquium on the Law of Outer Space we can find a summarizing article on "The Space Law 1957 – 1967".[62] *Von Rauchhaupt* paints the picture of 10 years of development of space law and regards it as success of the Outer Space Treaty which just had been adopted that nuclear weapons in outer space would be stopped.[63]

Moreover, it is interesting that in his later writings *von Rauchhaupt* comes back to theoretical questions, for example about the sources of space law. Here he lists besides other sources and at a very prominent place the divine law. Such divine law would be the basis as God's creation had also incorporated the "big bang".[64] This divine law would not be negotiable and not changeable by human will, thus surmounting any natural law. *Von Rauchhaupt* has reiterated his ideas of the determining factor of divine law in many other publications ever since.[65] This divine law could be found in the New Testament of the Bible. Sometimes legislators would take up formulations from divine law.

Thus, *Friedrich Wilhelm von Rauchhaupt* remains remembered as a strong propagator of the notion of divine law.

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2 The Divine Law in the Totality of Outer Space Law, in: Colloquium on the Law of Outer Space 1970, pp. 353-357.
See e.g. Divine Law and Human Law of Nature in the Law of Outer Space, Colloquium on the Law of Outer Space 1972, pp. 206-213 and The Present State of the Law of Outer Space, in: Colloquium on the Law of Outer Space 1973, pp. 281-286.

61 See e.g. The Law of ESRO and ELDO, in: Colloquium on the Law of Outer Space 1966, pp. 210-212.

62 The Space Law 1957 – 1967, in: Colloquium on the Law of Outer Space 1967, pp. 222-229.

63 Note 62, p. 228.

64 The Divine Law in the Totality of Outer Space Law, in: Colloquium on the Law of Outer Space 1970, pp. 353-357.
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3. Summarizing Perspective

As you can see, the writings in German on the early doctrine of space law have been very diverse. Already in 1932, *Vladimír Mandl* discovered in an astonishingly clear way, the problems that could arise and offered solutions far beyond his time. He even anticipated some solutions that later became international space law (no sovereignty, distinct body of law, jurisdiction and control). Also, *Alex Meyer*, who up to the advent of the space age was very active in the field of air law, very clearly emphasized from the beginning, the fact that space law was an independent new discipline that required completely new solutions – the main reason being the non-existence of State sovereignty in outer space. The possible analogies to air law were furthermore looked at in the early work of the *Prince of Hanover*. Finally, *Friedrich Wilhelm von Rauchhaupt* made his own contribution by putting space law in a transcendental perspective thus making us aware of the fact that humankind can only regulate behavior of humans not in all parts of Universe, but only in those areas which we have a minimum knowledge about. This shows that the task of approaching the more regulatory aspects of the universe is a huge, perhaps not achievable goal. But it demonstrates as well that growing scientific exploration and application may create a need for new legal regulation.

The four scientists have, each with an own methodological approach, paved the way for a deeper understanding of the new legal field of space law. For this achievement we owe them our sympathy, gratitude and appreciation. ■