# HERMANN OBERTH AND HIS PROFESSIONAL GEOGRAPHY IN THE EUROPEAN CONTEXT OF THE XXth CENTURY

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A new perspective on some aspects of Hermann Oberth's life is presented. We introduce and apply to Oberth's biography the concept of "professional geography". We argue that his professional geography played an essential role in Oberth's life and career. Moreover, a few less known facts are compiled and several false statements on Hermann Oberth are rejected.

Before being a scientist, Hermann Oberth had been a human. He had a special destiny as a human and as a scientist and lived in a troubled historical period for Europe. His life had not a linear development as might be expected for a scientist in peaceful times. How the surrounding canvas of events influenced his life and his creative work has not, to our knowledge, been analyzed until now. In this paper, we try to offer a glimpse on this topic.

This paper is largely similar to the one presented in the EMC'04 Conference, Iaşi, 2004, and is printed in the volume[1] of that conference.

## HERMANN OBERTH – A ROMANIAN SCIENTIST AS MUCH AS A GERMAN ONE

Hermann Julius Oberth was born in the city of Sibiu (the German name is Hermannstadt), Romania, on June 25, 1894. He died on 28 December 1989 in Nürnberg. He is credited as one of the three founding fathers of the interplanetary flights, the other two being the Russian Konstantin Tsiolkovsky and the American Robert Goddard.

One of the controversies related to Hermann Oberth is how he is to be considered: a German, a Romanian, or an Austrian scientist?[2] It should be emphasized that discussions on this subject are futile and of no interest, except maybe the political one. In the troubled Europe from the beginning of the 20th

[1] Unfortunately, that volume has been wrongly printed by the publisher based on the draft of the volume proposal, not based on the final disk we forwarded. Consequently, many and great errors exist in that volume, which must be considered only a draft, although the publisher widely distributed it.

[2] For example, in NASA Facts, June 1997, "A History of U.S. Space Stations", it is said: "In 1923, Hermann Oberth, a Romanian, coined the term 'space station'." (see www.tsgc.utexas.edu/spaceexplorers/activities/Appendix.pdf, accessed 11 July 2004.)

century, when country borders were volatile and people struggled for identity, Oberth is a good example of the destiny of an individual who suffered and used opportunities as well. The best perspective probably is that of a man who lived in a pot of boiling history. He was born a subject of the Austrian-Hungarian Empire in a principality with a Romanian dominant population; he became a Romanian citizen of German nationality;[3] he refused the German citizenship before the end of World War II, and finally he became a citizen of Germany, while staying for many years abroad. Under such circumstances, trying to fix Hermann Oberth as a single country representative is unavoidably a logical mistake. Instead of pursuing such a dead-end way, we prefer to discuss his education and life on a broader European background. We will use a few common-sense criteria: place of birth, nationality, citizenship, education, and professional geography. We argue that the ***professional geography***[4] is an essential concept in determining and clarifying the life of a scientist or engineer, in general, and particularly for Hermann Oberth.

Hermann Oberth

[3] It may be useful to recall that, although Hermann Oberth was born in the Austrian Empire, he was what we may call of "German origin". Indeed, in the first centuries of the second millennium, Europe resembled a bit to the US, in the sense that it was a pot of populations, migrating in all directions. A large German population came from the traditional German territories into what was later known as Siebenburger. (They brought and – most importantly – preserved their customs.) It is why I mentioned that Hermann Oberth had German origins, like all the Saxons who lived in Transylvania. They came from the nowadays Germany , not from, say, Vienna or Switzerland.

[4] The meaning used here for *professional geography* refers to the context of geographic, geo-political and geo-social space where persons or entities develop their life and pursue their activities, and the direct or contextual influences this environment has on the life and activities on the analyzed person or entity.

## FACTS ABOUT HIS CITIZENSHIP

- Hermann Oberth was born a subject of the Austrian-Hungarian Empire in the principality of Transylvania (best known today – by the public in the USA – as the country of *Dracula*), where the population was and is dominantly Romanian. He was a citizen of that Empire until the end of the World War I, when Transylvania was reunited to Romania, as a Romanian province.
- Hermann Oberth became a Romanian citizen after World War I, and remained as such until the end of World War II.
- Hermann Oberth was denied the German citizenship before the end of World War II, and this hampered his chances to attain a better scientific status.
- Hermann Oberth became a German citizen after World War II.

## FACTS ABOUT HIS EDUCATION

- Hermann Oberth grew up in Transylvania, in the towns of Sibiu (German name, Hermannstadt) and, after the age of 2, at Sighişoara (German name, Schaessburg).
- He completed his secondary school and high school at Sighişoara.
- His father was a medical doctor and director of the City Hospital at Sighişoara (see H. Oberth, The Space Pioneer, http://www.nso.lt/history/hermann.htm). His father persuaded him later to take a university degree in medicine. Hermann obeyed.
- When he graduated the high school, at 18 years old, he went to Germany (likes many young people in Romania at that time) to obtain a university degree. He studied medicine in Munich. Note that he received university-level education in Germany (Munich), in medical sciences. He practiced in a medical unit during World War I[5] and enlisted in the army of the Austrian-Hungarian Empire, as a citizen of that Empire. He discontinued his medical education due to World War I giving up his medical carrier; he went to Munich and Heidelberg to pursue studies in mathematics and physics.
- Oberth studied physics and submitted in 1922 to the University of Heidelberg a thesis about a rocket-propelled space travel. His thesis was rejected, probably because the topic of the space travel was too far from the mainstream of the then academic researches.[6]
- He studied afterwards physics at the University of Cluj, Romania. There, he defended a thesis in mathematics and physics on May 18, 1923, enabling him to become a school teacher of mathematics and physics.

[5] See http://www.nso.lt/history/hermann.htm (7/14/04).
[6] See http://www.flight100.org/history/oberth.html (7/16/04).

**PROFESSIONAL GEOGRAPHY**

The youth and maturity years of Hermann Oberth encompassed a tormented period of the European history. His generation participated in both world wars. As a child and teenager, he grew up in a multiethnic society made of Romanians (as a majority population), Hungarians, and Germans. As the son of a well-established physician, he led a middle- to upper-level life, in a border region of the Austrian-Hungarian Empire. The horrors of World War I showed him that he could not bear the human misery a doctor had to see. As a dreamer skilled in sciences he looked for honors in a ravaged Germany, but he was denied them. He returned back in his natal region to heal his soul wounds after the War years and after what he regarded as an unfair dishonor in a country he believed to be his new mother country. It is in Romania, at the University of Cluj, where he finally obtained a university degree in mathematics and physics, and partly accomplished his dream as recognized scientist. This event may have had a great influence on his soul connections with Romania. He remained there to teach students. Seeking public recognition, he came back several times to Germany, where he published on its own expenses a version of his visionary, but failed thesis.

Oberth obtained that public recognition, but with pain, because his engineering skills were not as brilliant as his theoretical ones and as his vision. Yet, he was denied German citizenship, even after he started work for the German war machine. Until a new Europe was established, after the World War II, he remained a Romanian citizen. Nevertheless, he was not at ease in the new Germany and traveled to Italy and Switzerland, then to the U.S. for work and for a living. It is impossible to know what would have happened to him after World War II, if conditions were better for him and for Europe. We definitely know that he was unable to return or even to travel to Romania in the period 1945–1965: as a former member of the Peenemünde team of scientists and engineers, he had no chance but to be arrested anywhere in the Eastern Europe of that time. Is it why he spent several years in Italy, another country remembering him his childhood, the country where he first read Joules Verne? Next, he spent almost all his time abroad. Was he a traveler, a rootless man, or an unrooted scientist? Because he sent his family back to Sibiu in 1938, while he looked for an employment in various places in Germany may prove that he still was rooted there, in Romania, because he was born there, but also because there his thesis allowed him to obtain a university title. We may speculate. The facts are:

- Early Romanian period, 1894–1912: Oberth grows up in Transylvania, mostly in Sighisoara, where his father heads the city hospital. He is a subject of the Austrian-Hungarian Empire, at that time including Transylvania.
- First German period, 1912–1914: he studies medicine in Germany.

- He practiced some medicine during World War I, in the army of the Austrian-Hungarian Empire. It is not clear how much his medical studies have influenced his later researches.
- Second German period, 1919–1922, ending with the rejection of his doctoral thesis.
- Second Romanian period, 1923–1935. Oberth has been appointed as a schoolteacher in mathematics and physics, in the Romanian city of Medias.
- 1923. His thesis, titled Die Rakete zu den Planetenraumen (The Rocket into Planetary Space, R. Oldenbourg Verlag, Munich), is printed in Germany, on Oberth's expenses.
- Between 1924 and 1938 Oberth worked as a teacher of mathematics and physics at a school in Medias, Transylvania.[7] However, this information may be partly wrong. It is, however, sure that he has been a teacher in Medias for many years.
- 1927. The "Society for Space Travel" (Verein fuer Raumschiffahrt or VfR) is constituted in Germany. Many argue that the formation of this society is largely due to Oberth's first book. Oberth becomes one of the members of VfR. In 1930, the VfR realizes a liquid fuel engine with a conical nozzle – a first technological success.[8]
- He frequently traveled in Germany during these years. During 1928 and 1929, he worked in Berlin as scientific film consultant for the film *Frau im Mond* (The Woman in the Moon), directed at UFA-Film Co by Fritz Lang.[9]
- 1929, Oberth publishes the 429-page volume Wege zur Raumschiffahrt (Ways to Spaceflight), in Germany.
- Many of his researches and experiments have been made in Romania. As late as in 1935, he tested in Medias, Romania, a rocket with liquid fuel. The experiment has been performed at the school for pilots in Medias.[10]
- Third German period, 1935–1945, still as a German ethnic with Romanian citizenship. In 1938 the Oberth family returns to Sibiu, Romania.[11]
- 1938–1945: Oberth is employed at the Technische Hochschule (Technical University) in Vienna, at the Technische Hochschule in Dresden, then he is with von Braun at Peenemünde working on the V-2, then he moves to a military complex near Wittenberg. During this time, his family remains in Sibiu, Romania.[12]

[7] http://www.flight100.org/history/oberth.html, accessed 11 July 2004.

[8] http://inventors.about.com/library/inventors/blrocketOberth.htm, accessed 11 July 2004.

[9] Wikipedia, http://www.fact-index.com/h/he/hermann_oberth.html, accessed 11 July 2004, and several other sources.

[10] See http://em.ucv.ro/cercetare/ciitt/calendar.htm, accessed 11 July 2004.

[11] Wikipedia, http://www.fact-index.com/h/he/hermann_oberth.html, accessed 11 July 2004.

[12] Ibidem.

- It is quite interesting to emphasize the next quotation:[13] *"Editor's note: Oberth's above mentioned Austro-Hungarian roots justified to include in the Austrian overview. However, it probably would be more appropriate to refer to him as a German (with an Austro-Hungarian background). Still, the lack of German citizenship had an important disadvantageous influence on his career in Germany."* The quotation refers to his German periods before the end of World War II. Again, Oberth has not been a German citizen during the World War II, but a Romanian one. It is only after the World War II that he became a German citizen.
- Last German period, 1945 to the end of his life. He becomes a German citizen, but stays abroad for long periods of time.
- 1945–1948, post-war German period. Confined to Germany.
- Swiss period, 1948–1950. He worked as an independent consultant and a writer.[14]
- Italian period, 1950–1953.[15]
- Hermann Oberth has been with the Army Ballistic Missile Agency and later NASA, 1954[16] Also see:[17] "In 1955 Oberth moved to the US, where he continued his work first for the Army at the Redstone Arsenal, and then for NASA."
- 1958–1960, he is back in Feucht, Nürnberg.
- 1960–1962 Oberth is in the US as a technical consultant for Convair.[18]
- After 1962, he retired in Germany. From 1948 to 1962, he basically spent 12 years out of 14 as an employee outside Germany.

There is one more important aspect that impacted Oberth's and other German rocketry scientists' professional life, and this fact should be emphasized. In the 1920s and the 1930s, after the defeat in World War I, Germany had to obey the peace treatises interdicting the development of heavy artillery.[19] However, these treatises said nothing about rockets, at that time seen as unreliable weapons. This breach stirred the interest of the political and military leadership in Germany in encouraging the public and scientific interest in rocketry. It is why Germany emerged as the only country in the world having a long-range rocket technology, while other countries have been interested only in small range reactive propulsion. Recall that other countries have also developed rocketry before World War II: USA has developed the bazooka reactive rockets, while the Soviets developed the small rockets carried by trucks and known as Stalin's organon. But the interest of the military in Germany was by far more ambitious: long distance rockets, eventually

[13] from http://www.flight100.org/history/oberth.html, accessed 16 July 2004.
[14] Wikipedia, http://www.fact-index.com/h/he/hermann_oberth.html, accessed 11 July 2004.
[15] Ibidem.
[16] See http://www.voy.com/105322/2/130.html, 7/31/04 8:51 AM.
[17] http://academic.udayton.edu/history/CHAPTER15.htm, accessed 11 July 2004.
[18] Wikipedia, http://www.fact-index.com/h/he/hermann_oberth.html.
[19] See http://www.donaldedavis.com/PARTS/V-2.html.

carrying people. The first human to fly a rocket has been a German lieutenant, during WWII; he died during that flight. The complex canvas of political, military and popular interest in rocketry in Germany constitutes a special background for Oberth's life and carrier from 1920 to 1945.

## A NOTE OF CAUTION

This section is by no means a plea for monocausality in Hermann Oberth evolution. I am particularly keen not to generate theories based on monocausality, when talking about human destinies. However, I emphasize that a "general background" was specific to Germany and it has most probably played an important part in encouraging rocketry developments in Germany. The following facts are known:

i) Rocketry was not new for military; in fact, military rockets have been extensively used in the battlefields for centuries. Even in the World War I, all armies had units specialized in rockets. But due to the advent of the huge guns developed by the mid/end of the XIX century, rocketry fell into oblivion. (Anyway, by the way, Tsiolkovsky, Oberth and Goddard were surely aware of that technology!) It is also known that after World War I, Germany had no restriction to build rockets, but had restrictions to build long-range guns. The shift from powerful guns to long-range rockets was a logical step, for sure, to compensate for the lack of strategic arms. On the other hand, in the other armies, the disdain which has covered by the beginning of World War I the rockets, as "old technology" (indeed!) may have hampered the interest in developing that technology. Therefore, in the other countries, the military only looked to improve that old technology (one-stage, classic rockets) to develop tactical (small-range) weapons.

ii) Only Germany has been really interested in developing new, revolutionary rocket technology for long-range weapons.

Of course, the above argumentation may look somewhat speculative, yet there are many historical facts supporting it and I think the conclusion is logical enough to be considered.

## PROFESSIONAL PSYCHOLOGY

The rejection of his thesis on rocketry submitted for a doctoral degree in Heidelberg,[20] understandably created him a frustration he never escaped. He never tried again to obtain a doctoral degree, angrily declaring that "I refrained from

[20] According to http://www.flight100.org/history/oberth.html, accessed 10 July 2004.

writing another one, thinking to myself: Never mind, I will prove that I am able to become a greater scientist than some of you,[21] even without the title of doctor." (from http://www.nso.lt/history/hermann.htm, accessed 11 July 2004).

He used to emphasize in his later years that he is not a doctor, and he somewhat contemptibly said, "In the United States, I am often addressed as a doctor. I should like to point out, however, that I am not such and shall never think of becoming one." (From http://www.nso.lt/history/hermann.htm, accessed 11 July 2004). He is also credited for saying with scorn about the university education "Our educational system is like an automobile which has strong rear lights, brightly illuminating the past. But looking forward things are barely discernible." (from http://www.nso.lt/history/hermann.htm).

"Between 1924 and 1938 Oberth worked as a teacher of mathematics and physics at a school in Medias, Transylvania" (http://www.flight100.org/history/oberth.html, accessed 11 July 2004). In this respect, Oberth resembles to Konstantin Tsiolkovschy, who also has been a mathematics school teacher. Oberth has not been an engineer, although he has experimented with rockets. He served as a consultant to various agencies, not as an engineer. Many consider him a theorist, and in fact he has produced much of the basic theory related to rocket and space flight.

Recall that his doctoral thesis submitted in Germany has been rejected: "*even though his doctoral thesis "The Rocket into Interplanetary Space" was rejected by the University of Heidelberg. Dr. Hermann Oberth, was considered the foremost authority on rocketry outside the United States."* (From http://inventors.about.com/library/inventors/blrocketOberth.htm, accessed 12 July 2004).

This situation is not singular and happened to others, too, for instance to Eugen Sänger:[22] "It was impossible for him to graduate with a thesis on rockets so instead he wrote one about experimental airfoil design and graduated in 1931."

## ON OBERTH'S CONTRIBUTIONS

The contributions of Hermann Oberth fall into two main categories. The first includes contributions in the early years, before 1923, when his interest has been mainly in rocketry and propulsion, while his vision has been influenced by Jules Verne. The second categories relates to his interest for the space flight itself, as a mean of space colonization. To this end, he devised more revolutionary flight ideas and many ideas of applications of interplanetary flights. While Konstantin Tsiolkovsky and Robert Goddard remain only rocketry visionaries, Oberth is the first to be a human space expansion visionary. Oberth's volume Possibilities of Space Flight, 1929, Berlin is, maybe, more important for the future of humankind

[21] Oberth refers to the judges of his thesis.

[22] Quotation from http://www.flight100.org/history/aus.html, accessed 10 July 2004.

than Oberth's former book. His ideas presented in that book have been used only much later: "In 1947, Wernher von Braun asked Ernst Stuhlinger to research the concept of electric propulsion as written in Hermann Oberth's book, Possibilities of Space Flight …. As Stuhlinger recalls, von Braun said, 'I wouldn't be a bit surprised if we flew to Mars electrically.' " (From Aloysius I. Reisz and Stephen L. Rodgers, Engines for the cosmos, in the Mechanical Engineering Magazine.[23])

Oberth also came up – very early, in 1923 – with the idea of space born astronomy and telescopes. He has been followed by Lyman Spitzer,[24] who advocated the idea of a space telescope for more than 30 years. These ideas are the roots of today space telescopes.

Beyond rocketry, Oberth contributed to the space vision because his personality was equally scientific and humanistic, and far less technology-inclined. Goddard, who was chiefly a technologist, lost himself in the details of the engineering. Von Braun was in the first place an engineer and used his mentor's, Oberth's ideas to direct his own researches.

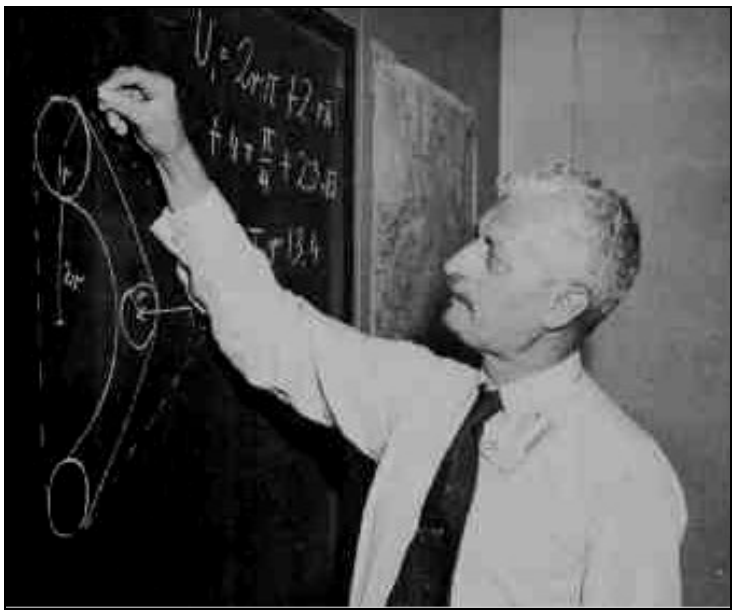
## HERMANN OBERTH ROCKETRY SCHOOL AND FOLLOWERS

Unlike Goddard, who worked under secrecy and was keen not to have anyone taking his ideas, and unlike Tsiolkovsky, who has not pursued very much his ideas in the early stages, Oberth has been particularly active in forcing his ideas to the public. As a result, he had many followers, some of them famous and many of them having significantly contributing to rocket and space technology. Some of them are listed below, with the quotations with relevant information.

***Wernher von Braun*** (1912–1977): "… Hermann Oberth, whose 1923 classic study, Die Rakete zu den Planetenräumen (By Rocket to Space), prompted young von Braun to master calculus and trigonometry so he could understand the physics of rocketry." (from http://history.nasa.gov/SP-4223/ch3.htm#41, July 18, 2004).

***Hermann Noordung*** "(1892–1929) was a pseudonym for Hermann Potocnik. He was a relatively obscure officer in the Austrian army who became an engineer. Encouraged by Hermann Oberth, he wrote an early seminal book called The Problem of Space Travel: The Rocket Motor. In that volume, Potocnik largely focused on the engineering aspects of space stations. See Hermann Noordung, edited by Ernst Stuhlinger and J.D. Hunley with Jennifer Garland, The Problem of Space Travel: The Rocket Motor (Washington, DC: Government Printing Office, NASA SP-4026, 1995)". (From http://www.hq.nasa.gov/office/pao/History/biosk-n.html, July 16, 2004).

[23] See http://www.memagazine.org/backissues/jan03/features/engcosmo/engcosmo.html (7/14/04).
[24] See http://spacescience.nasa.gov/admin/pubs/history/Chap3-essay.PDF (7/14/04).



Hermann Oberth teaching.

***Eugen Sänger*** "first studied civil engineering at the University of Technology in Graz, but after reading Hermann Oberth's (see Pioneer Profile) book about space travel he changed to the field of aeronautics at the University of Technology Vienna." From: http://www.flight100.org/history/aus.html, July 6, 2004.

## INSTEAD OF CONCLUSIONS

Two Romanians, both of German nationality, have been precursors or fathers of space rocketry: Conrad Hass, who, in Sibiu – the very city where Oberth was born – launches in 1529 a rocket designed as a military device, and Hermann Oberth. This is a remarkable fact for a single town.

We believe that Werner von Braun has best described the contribution of Hermann Oberth by saying:

"*Hermann Oberth was the first, who when thinking about the possibility of spaceships grabbed a slide-rule and presented mathematically analyzed concepts and designs....*

*I, myself, owe to him not only the guiding-star of my life, but also my first contact with the theoretical and practical aspects of rocketry and space travel. A place of honor should be reserved in the history of science and technology for his ground-breaking contributions in the field of astronautics*." (based on the web page http://www.oberth-museum.org/index_e.html, July 6, 2004).

*Acknowledgements.* The author is indebted to Dr. Marie-Luise Heuser for reviving his interest on the life and contributions of Hermann Oberth. Also, thanks are due to Dr. Marie-Luise Heuser for having revised a preliminary version of this paper and for having pointed to some unclear sections. I also thank Horia-Mihail Teodorescu for having performed a research on the traces of Hermann Oberth in Sibiu. He will publish his findings in a separate paper.

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[8] Hermann Oberth (Pioneer Profiles). http://www.flight100.org/history/oberth.html. 7/29/04 1:24 PM. Biography courtesy of the European Space Agency (ESA) and the European Space Technology Centre (ESTEC) Fine Arts Club. Copyright © 2004 American Institute of Aeronautics and Astronautics, Inc. Pioneer Profiles

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[13] Don Davis, The first V-2 and the dawn of the Space Age. http: //www.donaldedavis.com/PARTS/V-2.html (accessed 12 July 2004).

## ANNEXES

### A1. RECOGNITION IN ROMANIA AND ABROAD

It is remarkable to note the large recognition Hermann Oberth has found in the last 20 years in Romania. This recognition includes naming by his name a Faculty in the University of Sibiu (Faculty of Engineering), a high school in Bucharest, five streets in various cities of Romania. Also, a museum has been opened, bearing his name and covering his activities in the town of Mediaş. Except the museum in Germany (Das Hermann Oberth Museum), the museum in Medias is the only museum entirely dedicated to Hermann Oberth. The list of streets is:

- Street Hermann Oberth, in Sector 1, Bucharest
- Street Hermann Oberth in Braşov
- Street Hermann Oberth in Mediaş
- Street Hermann Oberth in Sibiu
- Street Hermann Oberth in Sighişoara
- High school in Bucharest: Liceul Teoretic Hermann Oberth
- Faculty: Facultatea de Inginerie (Faculty of Engineering) "Hermann Oberth", University of Sibiu
- Museum: Muzeul Hermann Oberth, in Mediaş (a section of the Aerospace Museum).

Unfortunately, the house where Hermann Oberth was born and where he lived for first years is not very well known in Sibiu and it is not marked in the tourist maps of the city.[25] A bust of Hermann Oberth is placed in the center of Sibiu.

We dare say that he has more recognition in Romania, as measured in mementos, than in any other country. In comparison, we have found only two streets in Germany bearing Oberth's name: Hermann-Oberth-Strasse, code D-85640 in Putzbrunn/München and Hermann-Oberth-Strasse 2, 83052 Bruckmühl.

### A2. MISTAKES AND BLUNDERS ABOUT HERMANN OBERTH

There are several funny mistakes and blunders related to Hermann Oberth in the literature, especially on web pages. I will illustrate a few of them.

- He was born … in a town called Transylvania (http://www.northstar.k12.ak.us/schools/ryn/spacerace/people/oberth.html, 7/29/04 7:54 AM). *Transylvania* is the name of a province in Romania (Northwestern part of Romania, a former principality).

**Comment**. Many mistakes occur because *Transylvania* principality is known under three names, at least. *Transylvania* is the name given by the Romans and currently used in the Romanian language. It means "the region of woods". Another name is *Ardeal*. Finally, because German populations were brought in the 13th century here, the region is also known under the German name of *Siebenbürgen* (the *region of the seven cities*).

[25] Horia-Mihail Teodorescu, who performed in August 2004 a systematic search of the traces of Hermann Oberth in his natal town, Sibiu, had difficulties to locate the natal home of Hermann Oberth. Most people, including taxi drivers, were unaware on the location and some wrongly indicated that the house had been demolished.

- Often, the city where Hermann Oberth is born is confused. I have seen several web pages giving the name of the city as Timişoara, which is wrong. The city is named *Sibiu* in Romanian and *Hermannstadt* in German. Before the World War II, Sibiu had a large German population.
- The main two Oberth's volumes are sometimes given wrong names. For example, in (http://www.nso.lt/history/hermann.htm, 7/29/04 8:26 AM), the same title is assumed for both volumes. In fact, the volumes are titled[26] "Die Rakete zu den Planetenräumen" (1923) and "Die Wege zur Raumschiffahrt" (1929).
- "In 1912 at the age of 18, Oberth moved to Germany where he spent most of his adult life." http://genesismission.jpl.nasa.gov/people/biographies/oberth.pdf. A similar statement is made[27] as "Hermann Oberth … spent most of his life in Germany". This is true, but it can mislead. Oberth spent his older years in Germany after living in Romania or in other countries. In fact, as already mentioned, Oberth came back to Romania and entered the Faculty of Sciences in Cluj, Romania, where he obtained in 1923 his degree. Subsequently, he obtained a chair at a school in the town of Medias, Romania, where he taught at least until 1935. It is true that he traveled much to Germany during that period. Only after 1935 he moved to Germany. However, from 1948 to 1962, he stayed mostly abroad, not in Germany.
- Another wrong issue frequently appearing refers to Oberth as a university-level professor, for instance: "Inspired by reports of successful experiments performed by Dr. Robert Goddard, engineer Max Valier and professor Hermann Oberth, with whom he corresponded, Ocenasek…" (http://www.spacefame.org/ocenasek.html 7/29/04 7:42 PM). Oberth was never a university professor but a school teacher, in Romania.
- On the Web, there are unfortunately some "biographies" that are wrong in almost every detail. Here is an example: "Hermann Oberth. Astrophysicist, born in Sibiu, Hungary. He studied in Munich, and abandoned a medical career for mathematics and astronomy. … In World War 2 he worked at the experimental rocket centre at Peenemünde, and later assisted Wernher von Braun in developing space rockets in the USA (1955-61). He has been called 'the father of German rocketry'." From http://www.biography.com/find/article.jsp?aid=9426293&search=, Accessed on 8/1/04 8:02 AM. Errors: Oberth was not an astrophysicist, he never investigated the physics of stars or planets. Sibiu is in Romania, not in Hungary. He did not study astronomy, but physics. During World War II he worked for a small period of time at Peenemünde. In conclusion, it is a pity such a poor article is published on the Internet.

[26] See http://www.feucht.de/oberth-museum/, 7/29/04 8:26 AM.
[27] In http://www.students.missouri.edu/~romsa/romania/html/celebrities.html, 7/29/04 7:07 PM.