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Picturing the Future in Outer Space at the Dawn of the Space Race. Disneys *Tomorrowland* (USA 1955–56) and *Road to the Stars* (USSR 1957)*

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Abstract

The „Space Race“ describes the race for the supremacy in space between the two superpowers, the USA and the former Soviet Union, during the Cold War. This race was lead in the 1950s and 1960s and culminated in the question which nation would be able to send its first manned mission to the moon. Sven Grampp considers the “Space Race” not by looking at images of space missions that have already taken place or are taking place right this moment, but instead by devoting himself to the explicit “future visions” that were circulating while the race to the moon was in the early stages. In his analysis he looks at the different styles of interpreting the future of East and West with two examples: Walt Disney’s *Tomorrowland* (USA 1955–1956) and *Road to the Stars* (USSR 1957).

Inhalt

Fig. 1a–b: Visualization of the Space Race: the front-page of the August edition of the popular scientific magazine *Popular Mechanics* from 1956 on one side; on the other side the front page of the news magazine *Time* December 6th 1968.

During the so-called Cold War between the USA and the former Soviet Union which started shortly after the Second World War and which caused the splitting of the world into a Western and an Eastern bloc for nearly half a century, the future looked, for the most part, rather dark.[1] For instance, when the Soviet Union planted nuclear rockets on Cuba in 1962 (in the immediate range of the US) it briefly looked like the future of the world could evaporate into dust in an instant due to a nuclear war between the two superpowers. During this Cold War, which, as we now know, thankfully never escalated into a hot one,[2] both sides of the Iron Curtain created scenarios of intimidation which they then repeatedly stabilized in particular by using "replacement wars". The most essential replacement war is deemed to be the so-called *Space Race*, a race for supremacy in space which was fought between the USA and the Soviet Union in the 1950s and 1960s and which culminated in the question about which na-

1 For more on the Cold War see: Bernd Stöver: Der Kalte Krieg. Geschichte eines radikalen Zeitalters, München 2007.

2 Although there certainly were so-called proxy wars, i.e. the Korean War (1950-53) or the year-long military conflict in Afghanistan.

Fig. 2: The global village hears the Sputnik signals - Front page drawing of *Komsomolskaja Pravda* on October 6th 1957.

Fig. 3: Start of the *Space Race:* the newspaper Bild visualizes Sputnik over Berlin on their front page on October 7th 1957.

tion would be capable to send its first manned mission to the moon (Fig. 1a and 1b).[3]

This race meanwhile wasn't just one for the technical and military supremacy in space but served furthermore and probably above all to demonstrate this supremacy within the mass media.

To mention just two of the most striking episodes of this race: the beginning of the *Space Race* is oftentimes accurately said to be October 4th 1957. That day the Soviet Union catapulted its very first artificial satellite into space, which orbited the earth for everyone to see and could also, because of a small radio

3 See also (from a variety of publications) for an e.g. technical and historical perspective: Michael Allen, *Live from the Moon. Movie, Television and the Space Race*, New York 2009; oriented on communicational science: Karsten Werth, *Ersatzkrieg im Weltraum. Das US-Raumfahrtprogramm in der Öffentlichkeit der 1960er Jahre*, Frankfurt am Main 2005; Or one of the classics from the political science perspective: Walter A. McDougall, … *The Heavens and the Earth: A Political History of the Space Age*, New York 1985; from the perspective of the Soviet Union: Asif A. Siddiqi: *The Soviet Space Race with Apollo*, Gainesville u.a. 2003.

broadcaster it was equipped with, be heard around the world. The Western media actually heard those signals very clearly and developed, according to their logic of function, paranoid theories about the supremacy of the Soviet Union not just in space, but also in the fields of engineering and the military in general, which sooner or later would lead to the Western civilization being either destroyed or, at the very least, being entirely colonized and assimilated by Soviet socialism. Photographs of the 83 Kilogram heavy satellite weren't accessible to the public at first. This blank space however was filled by very varied, more or less fantastic depictions by the international news coverage (see Fig. 2. and 3.). It has been said that the now proverbially known "Sputnik-Shock" had overtaken the Western, and especially the US-American public.[4]

In *Science Digest*, to illuminate one distinctive example of this "shock", they started to fear that space may not be America's fateful new "frontier" after all, but that instead the approaching communist world revolution might soon develop extraterrestrial dependencies (see Fig. 4).[5]

4 Regarding this subject there are now vast quantities of literature available, to name just two: Igor J. Polanski/Matthias Schwarz (ed.), *Die Spur der Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, Frankfurt am Main 2009; Roger D. Launius (ed.), *Reconsidering Sputnik Fourty Years since the Soviet Satellite*, London 2002. This "shock", additional all the following "shocks", such as the first manned space flight along the earth's orbit by Juri Gagarin in 1961, did moreover have its "productive" moments for US American space- and espionage projects: it is in this context that the fatalistic, apocalyptic tone of the US media can be said to have worked as a catalyst for the public to approve tremendously expensive space projects and mark the starting point for a large-scale educational campaign – see also e.g.: Angela Schwarz, "Das Tor in eine neue Dimension? Sputnik, Schock und die Popularität der Naturwissenschaften", in : Polaniski/Schwartz, *Spur des Sputnik*, S.32-55; James L. Kaufmann, *Selling Outer Space. Kennedy, the Media,and the Funding for Project Apollo, 1961–1963*, Tuscaloosa/London 1994, v. a.: p. 3 ff. Compare in this context the pointed statement of the soviet cosmonaut-veteran Georgij Gretschko, who, looking back at the Space Race, recently stated: "Fire something new into the air, so we'll get money again!" (cited by: Johannes Voswinkel, "Russen im Himmel", in; *Die Zeit* (31), 2011, p.23). Moreover, it has to be acknowledged that at least the US American secret service wasn't so much shocked by the start of the Sputnik-1 rocket, than welcomed it excitedly, given they had pondered for the longest time whether flying an espionage satellite over the region would be interpreted as an act of war and an interference into their national integrity by the Soviet Union. Since the USSR had shot Sputnik 1 into the orbit, that concern had dissolved itself and the history of the observation- and espionage satellites unfolded – for more on this see e.g.: Allen, *Live from the Moon*, loc. cit., p. 43 f.; for a critique on the mythos of the "Sputnik shock" see: Alexander C.T. Geppert, Anfang – oder Ende des planetarischen Zeitalters? Der Sputnikschock als Realtiätseffekt, 1945-1957, in: Polianski/Schwartz (Hg.), Spur des Sputnik, p. 74-94.

5 See: Albert Parry, "Sowjets on the Moon?", in: Science Digest (53) 1958, p. 29-35. Much earlier, on October 5th 1957, the newspaper The Star wrote excitedly: "Red Moon over London". Even the phrase of the Race for the predominance in space had at that time already become a common part of the discourse in the mass media. Which is why the headline of the day of the *Daily Herald* reads "Russia wins the race into outer space". Regarding the rhetoric of the frontier-mythos in this context see: Janice Hocker Rushing, „Mythic Evolution of ‚The New Frontier' in Mass Mediated Rhetoric", in: *Critical Studies in Mass Communication* (3) 1986, S. 265–96

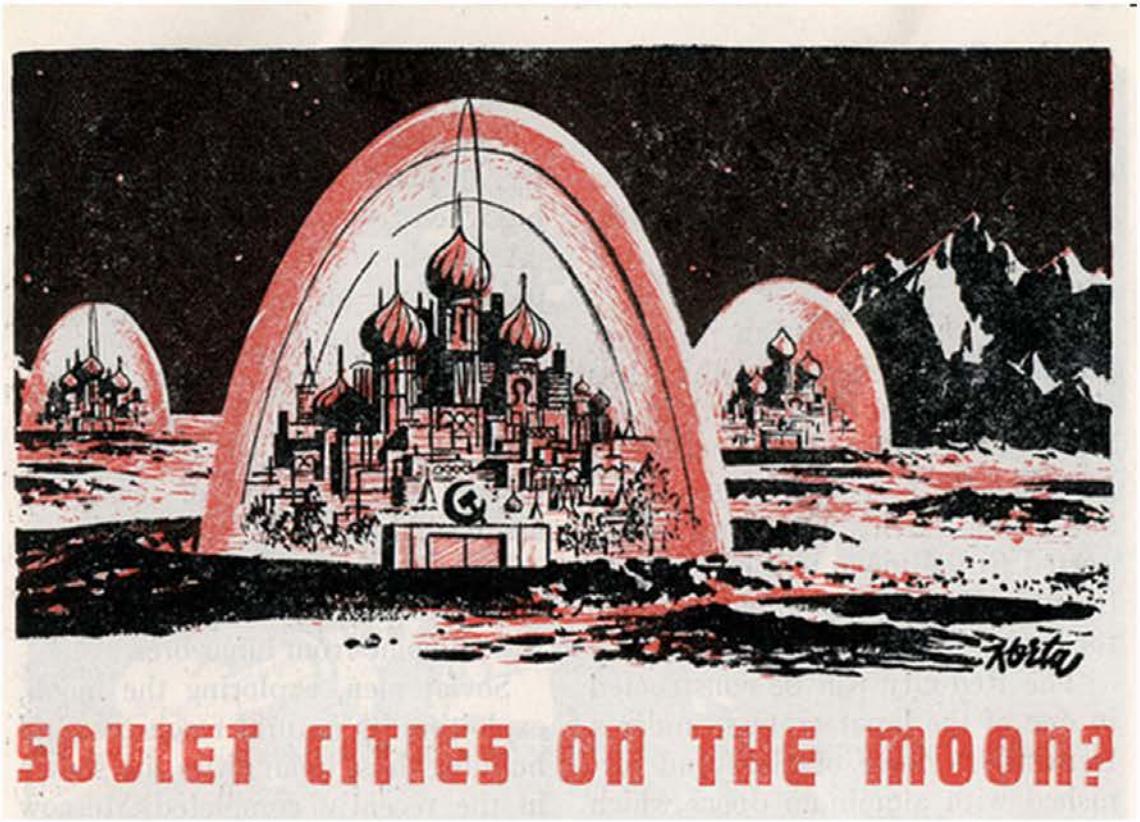


Fig. 4: Speculations about a possible near civic future, in: *Science Digest* 53 (1958).

But as history teaches us, things weren't meant to be and so the end of the *Space Race* also came differently than planned. This end is usually said to be around the night from July 20th to July 21st 1969. It appears that after this particular date the alleged "supremacy" of the socialist science, which the East German paper *Neues Deutschland* had still proudly proclaimed on its front page in reference to the international news coverage regarding the start of Sputnik[6], was finally put to rest. It was on this day that the US-American Apollo 11 mission first landed on the moon. The event was broadcasted live almost everywhere world-wide and around half a billion people watched on the screen as the first man, in ghost-like black and white images, stepped on the moon (see Fig. 5).[7] Shortly afterwards, the American flag was raised on the moon, cap-

6 See hereto the front page of the issue from October 6th 1957 where the following can be read: "A world enthralled by Sputnik. World-wide recognition for the supremacy of socialistic science."

7 Even on this subject there exists an almost limitless amount of research literature by now, naming just one poignant and media-theoretically advanced example: Lorenz Engell, „Die Kopernikanische Wende des Fernsehens", in: Ulrike Bergermann u. a. (Hg.), *Das Planetarische. Kultur – Technik – Medien im postglobalen Zeitalter*, Munich 2010, p. 139–154.

tured as a photograph in radiant colors by Neil Armstrong with a high-definition camera constructed expressly for this purpose (see Fig. 6). Even today this photograph figures as the embodiment of the American victory in the *Space Race* and quickly became one of the iconic images of the 20th century.[8] It is often taken up and used to either depict the arrogance, or rather the superiority, of the US-American power politics or to once again mark the beginning of a new era. This is what happened, for example, on the night of July 31st to August 1st 1981, at exactly 12.01 a.m., which was the moment the music station MTV first started airing, entering a new territory of the television universe and already wanting to make that very clear in their title sequence (see Fig. 7).

The Soviet Union *didn't* broadcast the first manned moon landing on television.[9] However, on June 21st 1969, an acknowledgement of the manned moon landing could be found in the *Pravda*, even if only on page 5. Despite all the congratulations expressed in the article regarding the moon landing, one thing is made perfectly clear: in no way was the moon landing a big step for mankind, let alone an event that opened the doors to alien worlds (given that this door had already been opened, namely through the soviet cosmonaut Juri Gagarin, the first human outside of the earth's atmosphere).[10] The report is accompanied by a reproduction of a picture from the live-broadcast of the moon landing. The picture was apparently photographed directly from a television set. Through the gritty image the first people on moon can hardly be made out, much less seen clearly (see Fig. 8).[11]

8 See hereto e.g.: Martina Heßler, „‚Der Mond ist ein Ami'. Bilder der Mondlandung und die Inszenierung der Wissenschaft", in: Gerhard Paul (ed.), *Bildatlas des 20. Jahrhunderts*. Bd. 2, Göttingen 2008, S. 394–401.

9 The event was however reported on (even before the fact) – for more information see: Cathleen S. Lewis, *The Red Stuff. A History of the Public and Material Culture of Early Human Spaceflight in the U.S.S.R.,* Washington 2008, p. 316 f. In a few states of the Warsaw Pact the moon landing was broadcasted live on television, e.g. in Poland and Czechoslovakia, which means that, strictly speaking, one can only speak about the "East" ignoring the event in very limited terms.

10 See: ibid.

11 See: ibid, p.217.

Fig. 5: Live-transmission of the first step of a human being on the moon - apparently in such poor quality that CBS had to transcribe the event.

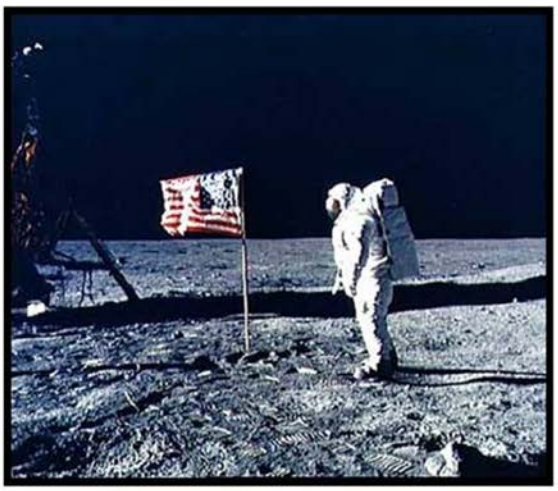


Fig. 6: For all Mankind (?): Buzz Aldrin on the moon in front of the American flag.

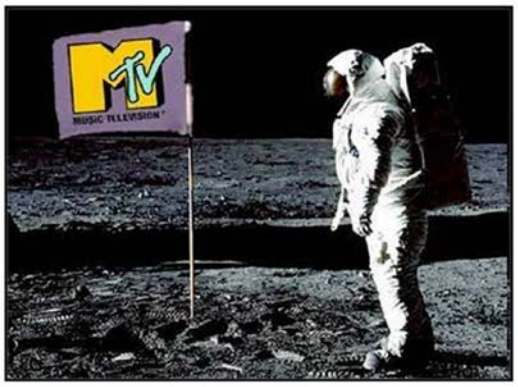


Fig. 7: A small step for a music channel, a big step for Mankind (?): MTV starts airing on August 1st 1981, at 12.01 a.m.

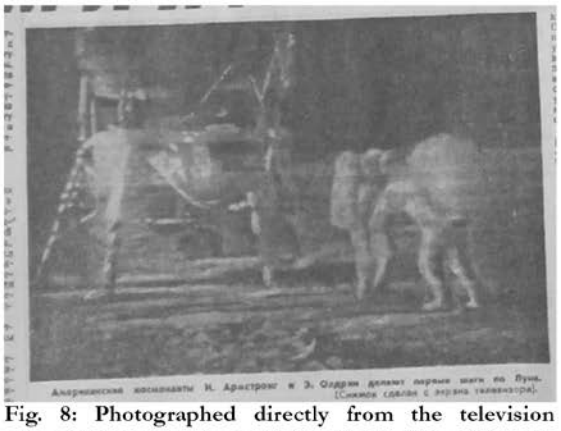


Fig. 8: Photographed directly from the television screen: Men on the moon in *Pravda*, June 21st 1969, p. 5.

The quoted examples are supposed to illustrate one thing above all: the *Space Race* was first and foremost a competition and a fight for the supremacy of pictures, or rather their iconography, which shaped, or were at the very least supposed to shape, a collective imagination and perception. Seen from that perspective, the *Space Race* has also always been a *Picture Race*, or phrased a little more materialistically: a Clash of Icons – a conflict of images and image formats between different (media-) cultures under the conditions of global image circulation and constant mutual observation.[12] This facet of the Cold War will be the subject of the paper at hand.

12 For more on the term of media culture see: Claudia Liebrand et al (ed.), *Einführung in die Medienkulturwissenschaft*, Münster 2005. For more on the mutual observation and global image circulation see: Klaus Gestwa, „‚Kolumbus des Kosmos'. Der Kult um Jurij Gagarin", in: *Osteuropa* (10)

Popular scientific fictions of the future

This part, however, will not illustrate space missions that have actually already happened in recent history or are happening at this moment. Rather, I want to concentrate on the explicit visions of the future that were implemented and brought into circulation during the race to the moon. The *Space Race* didn't just take place in terms of already reached accomplishments, but instead shifted its main stage (at least temporarily) to the field of visions of the future. In this context, utopic or even apocalyptic scenarios of a nearing future were produced *en masse* and whether the world society of the future would be capitalist or a socialist was a hot topic of debate among other things. In addition to this, or rather because of this, one issue that is also always in question, usually implicitly, is how and in what style to stage such a future. Hereafter it pertains to prove that asking about the style of such a staging can be very insightful even today, if one wants to understand the underlying structures which the futuristic visions of the *Space Race* established.

Naturally, even before the actual start of the race into space there were a variety of fictional accounts and ideas, which staged future extraterrestrial journeys. Since around the middle of the last century the *Space Race* has also often, mostly in Science Fiction movies, been taking place even before its real historic inception.[13] I don't want to delve into the comparatively well-mapped field of Science Fiction however[14], but rather take into consideration a much less researched style of futuristic visions. It involves a special form of documentary representations, which one can call popular scientific fictions of the future or, in soviet tradition, popular fantasy.[15] In lieu of the increasing exploration of space this genre experienced a huge influx during the middle of the 20th century.[16] On the basis of more or less scientifically informed insights they thereby envisioned, discussed and staged scenarios of a future, explained through wall charts, models and animation.

2009, p. 121–152, especially: p. 122 ff. For more on the on the cinematic propaganda of the Cold War in general see the recent: Tony Shaw/DeniseJ. Youngblood, *Cinematic Cold War. The American and Soviet Struggle for Hearts and Minds,* Kansas 2010.

13 Reference is made to only two movies, in which a race into space is an explicit subject: *Die interplanetare Revolution* (D: Nikolai Chodatajew et al., USSR 1924) and *Destination Moon* (D: Irving Pickel, USA 1950).

14 See e.g.: Georg Seeßlen/Fernand Jung, *Science Fiction.* Geschichte und Mythologie des Science-Fiction-Films. 2 vols., Marburg 2003.

15 For more on the term of popular fantasy in this context see e.g.: Matthias Schwarz, Die Erfindung des Kosmos. Zur sowjetischen Science Fiction und populärwissenschaftliche Publizistik vom Sputnikflug bis zum Ende der Tauwetterzeit, Frankfurt am Main 2003, loc. cit.: p. 19 ff.

16 See for more details on the Soviet point of view: ibid.; for the US-American point of view: Howard E. McCurdy, *Space and the American Imagination,* Washington/London 1997, loc. cit.: p. 29 ff.

I want to take a closer look at two examples of such visions of the future, both very successful during the later 1950s and audio-visually powerful, one produced in the "West" and one in the "East". It is on these two designs of the future especially – at least according to my thesis – that one can, firstly, track the strategies of how the (differing) future in "East" and "West" were invented and publicized during the Cold War particularly well. Secondly, it is the styles of those future visions which give information about sensitivities and specific appropriations of the (future-) world on this side and the other side of the Iron Curtain, above all their image composition, the linkage of shots and narration.

On one side there are three episodes from the show *Disneyland*, which addresses future space travel and exploration: the episodes "Man in Space", "Man and the Moon" and "Mars &Beyond" were first broadcasted on US American televisions in 1955 and 1956 (and are thus situated before the actual *Space Race*).[17] On the other side there is the Soviet movie *Doroga k zwjosdam,* the English title being *Road to the Stars).*[18] This movie started running in Soviet cinemas about a month after the start of the first Sputnik satellite.

Disney's trilogy about the future, as well as *Road to the Stars* were very popular on the threshold of the Space Race. The first two episodes of the Disney series are said to have been seen by in between 42 and 100 million people.[19] There are claims that the sitting president at the time, Dwight D. Eisenhower borrowed the film from the first episode, "Man in Space" with a certain idea in mind: „using the film as a primer for top Pentagon officers for the country's forthcoming campaign in outer space".[20] Whether or not that claim is true is debatable.[21] It is, however, true to the facts that only a short time after the Senate approved a budget for the first ever American satellite program.[22] *Road to the Stars*, too, was a big success. At the same as its cinematic release in the Soviet Union, there were synchronized versions of the movie in nearly all the countries of the Warsaw Pact. Today, *Road to the Stars* is see as a milestone of popular fantasy.[23] The movie could also be watched in the West. According to several internet forums Stanley Kubrick was said to have been so impressed by it that he took some of its motives for his movie *2001: A Space Odyssey*, which in turn started airing in cinemas only a few months before the first manned moon

17 USA 1955–1956, D: Walter Kimball.
18 USSR 1957, D: Pawel Kluschanzew.
19 See e.g.: Werth, *Ersatzkrieg*, loc. cit., p. 34.
20 Paterick Lucanio/Gary Coville, Smokin' *Rockets. The Romance of Technology in American Film, Radio and Television, 1945–1962*, London 2002, p. 146.
21 See: Harlen Makemson, *Media, NASA and America's Quest for the Moon,* New York 2009, p. 17.
22 See also e.g.: Allen, *Live from the Moon*, loc. cit., p. 14.
23 See also: Marcus Hammerschmitt, „Recycling der Bilder", in: *Telepolis*, August 29th 2002, URL: www.heise.de/tp/artikel/ 13/13156/1.html, accessed on October 23rd 2014.

landing.[24] However, these alleged influences, successes and efficacies aren't going to be the focus of this. Other aspects are more important: first, we simply need to understand what future scenarios Disney's *Futuretrilogy* and *Road to the Stars* implemented. Particular attention needs to be paid to the question of what images and, especially, what pictorial forms were used. Subsequently, the possibility needs to be discussed of whether or not and in which way these pictorial forms can be interpreted symbolically – which means: as a sign for comprehensive societal sensitivities and/or as an expression for specific media-cultural constellations.

Road to the Stars

Let's begin with the Soviet movie *Road to the Stars*. The movie started showing in cinemas at the end of 1957, which was, as previously mentioned, only a month after Sputnik 1 had orbited earth. This event is also the prelude of the movie. News articles from all around the world commenting on the event are inserted. After that there is a graphic animation set in place which shows the first artificial satellite orbiting earth, while at the same time the audience can hear the signal sequence which the satellite emitted. Following that, the movie shows a portrait of Konstantin Eduardowitsch Ziolkowski looking pensively upwards, supposedly at the cosmos (see Fig. 9). Big parts of the storyline of the movie are dedicated to Ziolkowski. He was a primary school teacher in the small town of Kaluga, about 200 km from Moscow. He was also very passionate about the mysteries of astronomy, astronautics and rocket propulsions.[25] He wrote articles on the technical realities of space travel and additionally authored a fantastical story in the tradition of the astronomer Johannes Kepler, through which he hoped to illustrate and popularize his theories – initially unsuccessfully. But that crucially changed after the October Revolution in 1917. Ziolkowski was, especially in the 1930s, elevated to something akin to the founding father of the rocket science by the Communist Party of the Soviet Union (CPSU) and not later than the 1940s had become a national identification figure through Stalinist propaganda. In almost the entire East Bloc one could observe how Ziolkowski was gradually transformed from a comparatively unknown and eccentric h hobby-researcher into *the* visionary of the interplanetary future. One high point of this enthronement was the celebration of Ziolkowskis 100th birthday in 1957, an event that was staged by the CPSU in Kaluga like a state occasion. On a photograph of the event one can see how

24 For a more detailed comparison of *2001: A Space Odyssey* and *Road to the Stars* see: Mark Wade, „Road to the Stars", in: idem (ed.), *Encyclopedia Astronautica*, URL: unter www.astronautix.com/articles/roastars.htm, accessed October 28th 2014.

25 For more on Ziolkowski's life and the use of his persona as founding father of Soviet space travel: Asif A. Siddiqi, *The Red Rockets' Glare. Spaceflight and the Soviet Imagination,* New York 2010, p. 43 ff.

Fig. 9: The cosmic visionary: Konstantin E. Ziolkowski (1859 – 1935).

Fig. 10: The celebration of Ziolkowskis 100th birthday in Kaluga on September 15th 1957.

Fig. 11: Museumization of Ziolkowski.

Fig. 12: The first men on the moon: Soviet cosmonauts.

the stage was prepared for Ziolkowski (see Fig. 10): above the party officials and the, at the time, leading scholars of rocket science the mounted a larger than life portrait of the rocket pioneer; underneath the portrait, which is wreathed in laurel, a rocket can be seen that points upwards at an angle to the year 1957. And it was indeed in that same year that Sputnik 1 was launched. Road to the Stars, which was planned and shot on the occasion of Ziolkowskis 100th birthday, has to be appreciated in that exact context.

During the first part of the movie we are presented with staged scenes of Ziolkowskis life and, in particular, his thoughts. We see him arguing ardently with his students, initially ridiculed by the elitist scientific world in Moscow, and forlornly brooding at this desk. Meanwhile we are experiencing the maturation of his thoughts, which can be heard as a monolog at the same time. As soon as one important and decisive thought prevailed it is then explained with the help of diagrams and formulas. After displaying Ziolkowskis life and representing how his thoughts until that point (up to the start of the first artificial satellite) had made their way through every obstacle, we then see once again the same portrait from the beginning, this time in a wooden frame (Fig. 11). Later – very precisely in the middle of the movie – we leave the rocket pioneer. What fol-

Fig. 13: Cosmonauts in the common room of a space station in earth's orbit.

Fig. 14: Cosmonauts by themselves – and under Lenin.

Fig. 15: The Red Square in anticipation of the first human in space.

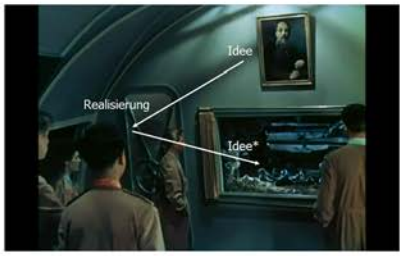


Fig. 16: The signature of the dialectic image logic.

lows is the concept for a possible future. The highlight (and preliminary end) of this future is the first manned moon landing (Fig. 12).

The narrative structure of the movie is comparatively easy: the first part is dedicated to the documentation of historical events, while the second part reveals future visions of steadily progressing explorations of space. To frame both parts a picture of Ziolkowski is used at the beginning of each part. Ultimately, after a successfully conducted moon mission, the movie then ends with a displayed text: "What you think is impossible today, can be reality tomorrow. Konstantin Ziolkowski." This sentence constructs a perceived contradiction (impossible vs. real) and then resolves it (today: impossible; tomorrow: real). It is a pretty conven-

tional dialectic style of thought and development. This dialectic style gets interesting when one realizes that the, firstly, the entire movie is told dialectically. The narrative dynamic follows one clear, repetitive pattern: first an idea is put into words; this idea is a radical contradiction to the current status (and is usually fought tooth and nail); nevertheless, this idea can push through all obstacles and becomes a reality. Secondly: Not only the narration is formed dialectically, but also the logic of the images. Initially there are clear limits between the different image types that appear in the movie: In the beginning Ziolkowskis portrait comes into view as a memento, then there are performed scenes, which are later at the end framed once again by Ziolkowskis portrait. It's important to distinguish the future visions going beyond the space travel pioneer, which as such are first presented as drawings and, above all, mockups and which are subsequently turned into cinematic animations. The different types of images are therefore being separated very clearly from each other, however in an additional step are then put into a dialectic relationship to one another: In the last chapter of the movie there's a scene in which this image logic turns self-reflexive. It is a form of signature for the entire movie (see Fig. 13): We see cosmonauts who are living long term in a space station that orbits earth. The scene takes place in the posterior common room of the station. The cosmonauts are standing in a half-circle around the wall of the common room. There, top right over their heads one can see a framed picture of Ziolkowski. Such a placement is reminiscent of iconographic conventions of representation, indeed almost a pathos formula, as was often seen, at least at the time, in Soviet public spaces.[26] One only has to think about the picture from Ziolkowskis 100th birthday celebration. But even seen independently from Ziolkowski, this order of perception is omnipresent and mostly associated with Lenin (or Stalin). Let me give just two examples in the context of space missions. In one case we are talking about a card autographed by the first cosmonauts, as they often circulated in the Soviet public in the middle of the 1960s. On this card, the cosmonauts are gathered under a painting of Lenin, who is looking into the cosmos (see Fig. 14). The second picture shows the Red Square during the celebration of Juri Gagarin's return, the first human in space. Above the crowd at the Kremlin they installed a banner which has Gagarin printed on it and above him a forward-looking Lenin (see Fig. 15). The visionaries, the heroes of the revolution(s) gather on these pictures and tower above all events as generators of ideas and guiding figures. Despite all explicit political and ideological insisting on collective work in and around socialism, there had already been a decade long and common iconographic configuration of revolutions at the time the movie *Read to the Stars* stated showing in cinemas, which hauls out a big revolutionary from the masses and makes

26 On the concept of the pathos formula see e.g.: Ulrich Port, Pathosformeln. Die Tragödie und die Geschichte exaltierter Affekte(1755–1886), Munich 2005.

him the founding father of all following revolutions.[27] But the picture from *Road to the Stars* isn't just interesting because Ziolkowski is towering over the cosmonauts like an idea generator and figurehead, as a father of coming cosmic revolutions and future enterprises. At least as important is: Situated underneath Ziolkowski's portrait is an aquarium-shaped box which, on closer inspection, turns out to be a model for a settlement on the moon, including figurines, little houses and equipment. So basically, here they drafted and visualized a possible futuristic scenario via a model. Such model constructions are probably best known in form of model trains or they serve as visualization of historic battles or even as projections of possible scenarios of war. Whatever the use of such models in particular is, crucial is that they are models of things that are constitutively absent, don't exist yet or don't exist anymore and, as in the case of Road to the Stars, divide a possible future space from a different cinematic space. This applies as much to the portraits reminiscent of the past, as well as the cinematic present space of the space station. Past, present and future are very clearly distinguished here by different pictorial styles and at the same time tied together in one image space and moreover, related to each other dialectically: The inanimate oil portrait symbolizes the past visionary whose ideas are now made reality in the animated space of the movie. More ideas for the future from that point on are presented in the inanimate, but variable model of the future underneath Ziolkowski's portrait. With that the dialectic logic of the narration and the images in this sequence is being symbolically condensed (see Fig. 16). Thus, *Road to the Stars* creates an image of the course of history and the future that meets the dialectic-materialistic doctrine of societal developmental processes , as well as follows revolutionary guidelines that are optimistic about the future of the socialistic reality even into the imaging.[28]

Tomorrowland

In the second example, which was produced and aired on the US American television sets nearly three years prior, there are no such revolutionary found-

27 Incidentally, this is a form of presentation that has a long tradition characterized by Christian iconography, and which, with the start of the French Revolution, started penetrating secular areas – see also for more details: Sven Grampp, Das Medium des neuzeitlichen Lichts – Gutenberg und die Lichtsymbolik. *Hefte zur Medienkulturforschung,*Vol. 7/2014. For more on the problem of constructing a socialist hero, on one hand thought as a unique figure, singled-out from the masses, on the other hand however dependent on the deeds of others, who insofar are basically all "heroes" too – see: Rainer Gries/Silke Satjukow (Hg.), *Sozialistische Helden. Eine Kulturgeschichte der Propagandafiguren in Osteuropa und der DDR*, Berlin 2002.

28 About the dialectical materialism see: Gustav A. Wetter, *Der dialektische Materialismus. Seine Geschichte und sein System in der Sowjetunion*, Freiburg 1960; for more information on socialistic realism see: Thomas Christ, *Der sozialistische Realismus. Betrachtungen zum sozialistischen Realismus in der Sowjetzeit*, Basel 1999 or (regarding the utopic, avant-garde potential of the socialistic realism): Boris Groys, „Die Massenkultur der Utopie", in: Ders./Max Hollein, *Traumfabrik Sowjetunion. Die visuelle Kultur der Stalinzeit*, Frankfurt am Main 2003, p. 20–37.

ing fathers. The structure and arrangement of the images – according to the logic of structure of the Cold War - is we well in a harsh contrast to Road to the Stars. As previous mentioned this example is a three-part movie series which was aired for the first time in 1955 and 1956 as part of the weekly show *Disneyland* on the ABC channel. On one hand, the series is related to Walt Disney's endeavor to build the first Disneyland park.[29] Disney produced the show for ABC to raise the money for this ambitious project. "The television program was organized around the park's four themes: Adventureland, Frontierland, Fantasyland, and Tomorrowland was the least developed".[30] Thus with *Tomorrowland* a space scenario was also supposed to be implemented. The biggest attraction: a simulated journey to the moon. In the second episode, "Man on the Moon", Disney explains via photographs and models the setup and inner workings of this journey to the moon, which only about year later could then be visited and, above all, experienced near Los Angeles (see Fig. 17). On the other hand, a rocket engineer of German origin, Wernher von Braun, was heavily involved in the project from the beginning.[31] During the Second World War he had constructed the infamous V2 rockets for the Nazis and had then, around the end of the War, been brought to Florida by the US military to conduct even more rocket tests. In the 1960s he was responsible for the construction of the Saturn V carrier rocket, which made it possible for the Apollo mission to actually fly to the moon. In the 1950s, however, it seemed like that mission was still far off in the distance. From political, as well as economic parties the project was viewed with a lot of skepticism in the beginning.[32] To change that, Braun turned to the public. First he initiated a series of articles in the weekly magazine Collier's. Shortly after that he started cooperating with Walt Disney. Von Braun was a vital technical consultant and involved in the production of models, diagrams and animated scenes. Apart from that he often appeared as a scientist and moderator in the movie series itself. So those were the two tangible reasons for the production of the *Tomorrowland* episodes: on one hand, the acquisition of funds for the first Disneyland park and on the other hand the hope to form a public opinion in favor of new actual

29 See hereto: McCurdy, *Space*, loc. cit., p.41 ff.

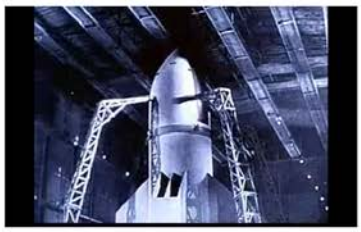
30 Ibid., p. 41

31 See also for more details: ibid, p. 40 ff.; Randy Liebermann, „*The Collier's* and *Disney Series*", in: Frederick I. Ordway III./Randy Liebermann (ed.), *Blueprint for Space. Science Fiction to Science Fact*, Washington/London 1992, p. 135–146; Makemson, *Media*, loc. lit., *p.* 10 ff.; Mike Wright, „The Disney-Von Braun Collaboration and Its Influence on Space Exploration", in: Daniel Schenker et al. (ed.), *Inner Space, Outer Space: Humanities, Technology and the Postmodern World.Selected Papers from the 1993 Southern Humanities Confernce*, Huntsville 1993, p. 53–61.

32 In additional, it wasn't very helpful for the implementation of Braun's vision in the USA that he had been officer for the Schultzstaffel (SS) during the war – for more detailed information see: Michael J. Neufeld, *Wernher von Braun. Visionär des Weltraums, Ingenieur des Krieges*, München 2009, loc. cit.: p. 240 ff.

Fig. 17: Walt Disney plans the journey to the moon.

Fig. 18: 'Workers of the world unite!': Collective effort in the Disney studios.



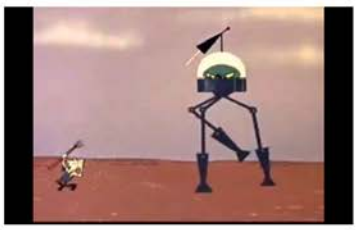


Fig. 19a–c: Disney's cinematic memory: From *A Trip to the Moon* (1902) to *Woman in the Moon* (1929) to several adaptations of the novel War of the Worlds (1901) in the 1950 and 1960s.

projects in space. We'll come back to that later. Before that, however, we should take a closer look at the structure of the series.

The titles of the respective chapters already make it clear that the futuristic scenarios are getting more and more theoretical: First we follow humanity into space ("Man in Space"), then to the moon ("Man and the Moon") and finally in "Mars & Beyond" into the vast openness of space. It implies the following: There won't be a final destination point anymore. *Space* isn't just "the new frontier", as John F. Kennedy will declare a few years later in relation to the US American frontier-mythos, because for all intents and purposes, Space is being imagined as a *never ending frontier* – or as it would be called from 1966 onwards in the intro of the Science Fiction TV show *Star Trek*: "Space – the final frontier".[33]

33 About the (new) frontier-mythos see: Rushing, *Mythic Evolution*, loc. cit.

Even if the journey is leading further and further into infinity, the episodes of the *Tomorrowland* trilogy are all similar in their structure: There is always a small introduction with Walt Disney talking directly to the audience, after which the decade-long or even millennium-long history of respectively the space-, moon- or mars projects is being retold through a cartoon. Afterwards, different aspects of space travel (such as e.g. rocket propulsion, construction of a space station, space medicine) are being discussed. Part of each episode is also a dramatic adventure sequence. The end of each episode is a sort of cliffhanger: As they travel further and further into space, there are also always endlessly new phenomena of space that haven't been discovered and which, as per the commentary, still have to be explored (namely, in the next respective episode). Through this narration style, which is basically geared towards infinity, the serial structural logic of television is being used to illustrate the (theoretically) infinite possibilities for space exploration.

What is striking is the fact that *Tomorrowland* is a television series (and follows the structural logic of one, geared towards infinity), while *Road to the Stars* is a single movie (and also has, at least dramaturgically, a clear ending with the high point being the moon landing at the end of the movie, thus it follows a cinematic structural logic). Almost as striking is a second difference: Contrary to Road to the Stars, Disney's Futuretrilogy isn't about an outstanding (leading) visionary, who all those visions of the future can be traced back to. Rather there is continued talk about the many engineers and artists, who worked together tirelessly to design a possible future. Often times many cooperating workers are then shown, people who built mockups together, teach each other about certain information, evaluate images, paint images, confer about something etc. (see Fig. 18). The focus is on the joint, collective effort and cooperation, not a singular thought leader.

Fig. 20: Rocket thrust: Cinema of Attraction.

But there is one other distinction that is also crucial, namely the completely different handling of the images. Starting at the recourse of movies: *Tomorrowland* quotes, compiles and reflects on several science fiction movies – from George Méliès' *A Trip to the Moon* (from the year 1902) to Fritz Lang's *Frau im Mon*d (from 1929) to the, in the 1950s and 1960s extremely popular, adaptations of H.G. Wells classic novel *The War of the Worlds* (see. Fig. 19 a–c). Furthermore it seems that Disney Studios was committed to use as many pop cultural film styles, genres and formats as possible for the depiction of the space travel. To name only a few of these acquisitions: There is a no less than three minute long sequence in "Man in Space" during which rocket launches take place one after another in progressively faster intervals. In the process, the pictures become more and more blurred and abstract or, if you will, more and more entropic. Obviously, the narration is interrupted here in favor of the show value. At this

Fig. 21: *Education for the Masses.* **Werher von Braun as teacher.**

Fig. 22a–c (right): Mission to the dark side of the moon.

point it's all about the visual attraction of the rocket launch (see Fig. 20).[34] This is a vital style element of the so-called *Cinema of Attraction*.[35]

But elsewhere things are more down-to-earth. When German-born rocket expert Werher von Braun stands in front of a blackboard and starts teaching the audience about the thrust power of a so-called V2 rocket by means of diagrams and mockups, then that is a classic educational film as they are still known even today (see Fig. 21). Another attraction is the classic adventure movie. There is, for example, a live-action sequence from "Man and the Moon" about the dramatic first orbit around the moon (see Fig. 22 a–c). During this journey the crew of the spaceship has some problems with hitting rocks. When the space-

34 The reading direction is from left to right and from the top of the row to the bottom. In the beginning, the rockets are still clearly visible, but are more and more wrapped in smoke until at the end there is only a nearly black screen visible.

35 For more on this concept and its historic roots: Tom Gunning, „The Cinema of Attraction: Early Film, Its Spectator, and the Avant-Garde [1990]", in: Robert Stam/Toby Miller (ed.), *Film and Theory. An Anthology*, Blackwell 2000, p. 229–235. This *Cinema of Attraction* is actually rooted in carnival attractions and is thus as the choice of presentation for a Disney movie, which was supposed to gather funds for the first Disneyland park, therefore ultimately for a carnival, a return of the Cinema of Attraction to its roots.

craft nevertheless reaches the dark side of the moon, the crew members see a structure pattern on the moon that seems to indicate the settlement of an extraterrestrial species. At least in the context of this mission this remains in the realm of speculation, however. When speculating about how things could have looked or look now on Mars on the other hand, animated cartoon sequences are used to generate fantastical worlds. The visionary insight goes so far that all forms of figurativeness disappear and the only thing left are rhythmically oscillating color patterns (see Fig. 23). This rhythm of color patterns lives up to the experimentally abstract movies in the tradition of Walter Ruttmann.[36]

Not only were different cinematic forms and styles used and implemented for the illustration of the explorations of space. The images themselves are also directly engaged. For example, to represent the American rocket pioneer Robert Goddard a photograph is used that is then retouched graphically (see Fig. 24a and 24b). Similar image editing can be seen with the illustration of another rocket pioneer, Hermann Oberth: His presumed mathematical thought processes are being illustrated around a photographic portrait (see Fig. 25a). Similarly, this also happens with a photograph which has been taken in context of the foundation of the first German rocket association (see Fig. 25b).

Considering additionally what subject the movie is actually dealing with at this point, the following is apparent: From addressing Oberth, we then get to the movie *Frau im Mond*, for which Oberth had worked as a technical consultant; from this point we are then guided back to the first German rocket association, whose member Oberth had also been, and are then lead to the first military rocket experiments. Here, the rocket from the movie *Frau im Mond* and the actual rocket launches are referenced on the same ontological level.[37] If one follows the logic of the narration and the images, there is basically no distinction between Oberth designing a rocket for a movie or designing an actual functional one. Or more precisely: Imagination and realization are mixed together and influence each other. At least that's how it's portrayed here: The fictional images and the historic images of missile tests, images from the past and a possible future are blended together and affect each other.

36 For more details on the abstract film see: Hans Scheugl/Ernst Schmidt, *Eine Subgeschichte des Films. Lexikon des Avantgarde-, Experimental-und Undergroundfilms*. Frankfurt am Main 1974.

37 Even if this in particular this shouldn't have happened: „Disney […] cautioned his staff to make sure the line between fact and fantasy was clear". (Makemson, *Media*, loc. cit., p. 15.)

Fig. 23: Life on Mars.

Fig. 24a–b: Robert Goddard once depicted in the original photography (a) and once in Disney's edited illustration (b).

The presentation of the world and development processes that is shown by this image practice is completely diametrically opposed to the image logic manifested in *Road to the Stars*. In *Tomorrowland* we are dealing with hybrid images and image sequences. Image material which is heterogeneous and ontologically on completely different levels is blended, fact and fiction are entirely thrown

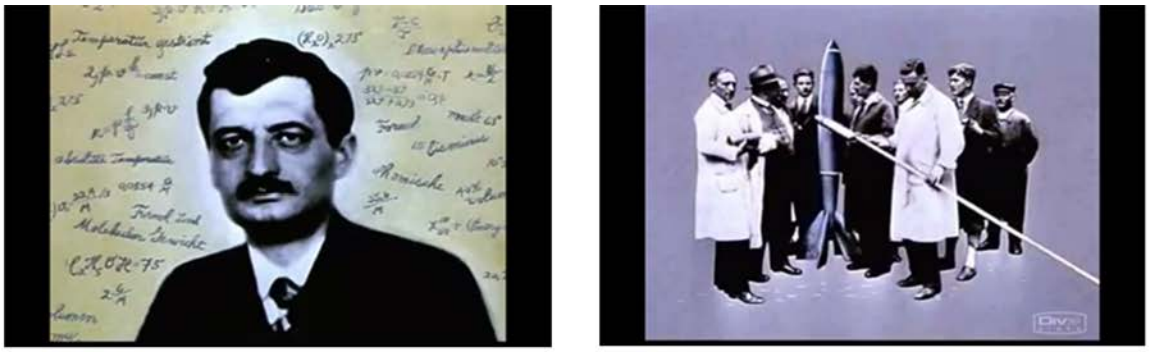


Fig. 25a–b: Hermann Oberth and the first German rocket association in *Tomorrowland*.

Fig. 26: Image pile à la Disney.

together, history, present and future are staged in a stylistically pluralistic setting. There is no clear distinction or framing of images as there is in *Road to the Stars* and also no clear dialectic follow-up relationship. It's not: First there is an idea that has to fight against resistances before it is made reality later after all. Instead it's: Everything is always part of everything already. Ideas are constantly penetrated by reality and changed.

This idea is highlighted very cleary at the very beginning of the television series (see Fig. 26). Ward Kimball, the director of the series, explains that already existing images were examined and evaluated to create a new vision of the future. In the pile of images, which is then shown, a lot of different images and pictorial styles can be distinguished: For example ink drawings for Méliès' movie *A Trip to the Moon*, documentary photographs of a rocket launch, a color repro-

Fig. 27a–b: Disney's *Tomorrowland* (a) vs. *Road to the Stars* (b).

duction of a painting by Chesley Bonstell. These different templates were used coequally and changed to generate an image of a possible future. This is, as previously explained, in stark contrast to the image logic of the movie *Road to the Stars*. By harshly reducing and emphasizing, the different image logics and future visions can be divided into two pictorial styles and contrasted with each other: In the case of Disney's *Tomorrowland* it is the hybrid picture that is the essential organizing principle (see Fig. 27a), in the case of *Road to the Stars* on the other hand it's the dialectic image (see Fig. 27b).

Shapes of the future

Neither in *Road to the Stars,* nor Disney's *Futuretrilogy* do they solely talk about a Soviet or US American colonialization of space. Naturally they do that too – in one case it's Soviet cosmonauts who first step on the Moon; in another it's primarily US American pioneers (aided by German immigrants) who explore space – but it seems that the fundamental differences revealed by the chosen pictorial styles and methods of narration, are at least as telling for the *Space Race* during the Cold War.

Not only is the future told differently, we are also taught subliminally through which different styles it is supposed to be communicated. Maybe this betrays less about a future present than much more about the present future, to use a comparison by Niklas Luhmann.[38] It stipulates that such current future-oriented concepts tell more about the present social state than about a would-be future. Luhmann can help understand such future-oriented designs as societal self-description, in other words as self-assurance about who and what we

38 See also: Niklas Luhmann, „Die Beschreibung der Zukunft", in: Ders., *Beobachtungen der Moderne*, Opladen 1992, p. 129–147.

are or want to be.[39]But – and this is a kind of *iconic* twist of the idea – images don't just tell stories with specific historic semantics that tell us something about the expectations of this particular societal constellation, but instead underneath these explicit semantics, underneath the textual motifs operates a very specific medial image logic. It is precisely those pictorial forms that can be interpreted as societal self-description, given that it's these forms that indicate specific acquirements, imaginations and concepts of the world.

It shows a very different approach and a very different understanding of the world or at least a very different ideology to cinematically narrate a future through clear and distinctive dialectic styles and developmental laws, of which the starting point is a revolutionary who is said to have been the one to even make all further developments possible, and at the end of which the dramatic highlight of a moon landing takes place, as in the case of *Road to the Stars*, then the approach that shows the exploration of space from the very beginning as a product of collective cooperation, which has fiction and reality always intertwining , mixed in hybrid images and which is adapted for the serial logic of television, like Disney's *Tomorrowland*. Eventually, quite clearly different perceptions of future developmental dynamics eventually show themselves – in fact relatively independently from what the respective content specifically spells out. Thus it's not just about the simple illustration of the *Space Race* or a picture race in terms of "Who now will be the decisive global space icon content-wise?": Ziolkowski, Wernher von Braun or an US American astronaut pioneer, will Sputnik 1 or Apollo 11 above all be remembered, will the future be capitalistic or socialistic? Next to it or underneath, the future visions of the Cold War are about the conflicting process of world appropriation in different pictorial forms.

This point of view can be supported further by regarding the respective cinematic and media aesthetic backgrounds of the productions which follow along the lines of very different traditions. Firstly it should be noted that in Soviet film history the dialectical arrangement of images has been firmly established in the memory of the Soviet movie and form repertoire since the revolution movie of one Sergei Eisenstein.[40] Although the dialectic in *Road to the Stars* isn't realized in form of a montage, as with Eisenstein, but the narration and image compositions are nevertheless dialectically arranged.[41] Secondly, the glorification of the extraordinary revolutionary in particular was reflected not later than

39 For a closer determination of societal self-description see: Niklas Luhmann, *Die Gesellschaft der Gesellschaft*, Frankfurt am Main 1997, p. 880 ff.

40 For more on the exact style definition of Eisenstein's montage technique see e.g.: Felix Lenz, *Sergej Eisenstein. Montagezeit – Rhythmus, Formdramaturgie, Pathos*, Munich 2008.

41 Other science fiction movies of that time, e.g. *Nebo Zovyot* (USSR 1962, D: Mikhail Karzhukov/Aleksandr Kozyr), were similar. For more on the history of Soviet cinema see: Peter Kenez, *Cinema and Soviet Society from the Revolution to the Death of Stalin*, London/New York 2001.

the Stalin-era in innumerable movies. The connection of a revolutionary hero and the dialectic developmental logic became the typical topos of cinematic narration.[42] That the *Tomorrowland*-episodes we looked at here weren't dialectically organized but instead took hybrid shape, could initially simply be owed to the tendency of many Disney productions to use and mix different pitches, styles, forms of narration, pop cultural references and the blending of real and animated sequences.[43] What is more, this presentation method could also been seen as a knee-jerk reaction to the changed media historiographic situation: In the decade during which the Disney TV-series was first aired, television evolved into the leading medium in the USA. One has to bear in mind that there was quite a dramatic medial change there in the middle of the 20th century. If in 1950 "only" about 900.000 US-American households had a television, this was up to 90% in the 1960.[44] From the very beginning, the television medium worked in a different way in the USA than another medium that had established itself socially in the first half of the 20th century almost nationwide and also presented cinematic material, the cinema. Not only can a change from the public space to the private space be observed here, rather the television works as a program medium: It doesn't just show a simple movie with a beginning, middle and end. Rather it is geared towards infinity; several channels air at the same time; serial structures shape the program sequence, whereas a program pattern is established that strings together heterogeneous material, fictional and documentary formats, animation and live action movie and is infused with commercials.[45] Seem from this perspective, the style of Disney's *Tomorrowland* – its serial, intentionally open-ended format, the hybridization of different style, pictorial and narration forms – is an expression of exactly this new medial change which crucially influences the everyday lives and thus the world perception of the majority of the North-American population since the 1950s.

42 See also e.g.: ibid., p. 89 ff., Groys/Hollein, *Traumfabrik Sowjetunion*, loc. cit.

43 See also e.g.: Leonard Maltin, The Disney Films, New York 1995. In US-American science fiction movies of that time it also happens quite a lot – see e.g.: in *Destination Moon*. For more information on this practice see also the movies of US-American director and producer Roger Corman. In the beginning of the 1960s, Corman bought a dozen Soviet science fiction movies and then re-cut (in some cases considerably) the movies for the American market (for more details see also e.g.: Mark Thomas McGee, *Roger Corman. The Best of the Cheap Acts*, London 1997). A comparison between the Soviet original *Nebo Zovyot* and the US-American version *Battle Beyond the Sun* (USA 1964) shows the mentioned form differences between dialectic and hybrid productions very clearly.

44 See also: James T. Patterson, *Grand Expectations. The United States,1945–74*, Oxford 1997, p. 348. In contrast to, for example, the USSR where the television only starts spreading nationwide around the middle of the 1970s – for more on this see: Ellen Mickiewicz, *Split Signals: Television and Politics in the Soviet Union*, Oxford 1992, p. 7 ff.

45 For more information on this perspective on television see: Knut Hickethier, „Dispositiv Fernsehen. Skizze eines Modells" [1995], in: Michael Grisko (ed.), *Texte zur Theorie und Geschichte des Fernsehens*, Stuttgart 2009, p. 270–293.

Form should thus be understood as a passage point at which specific interests, social sensitivities, aesthetic traditions and media cultural constellations cross each other, as well as consolidate – and indeed also in cases that aren't just about the illustrations of actual existing phenomenon, but instead about visions of the future.

Although the following is still true, „the future is and remains uncertain"[46], its possible perceptibility however is being shaped in the present. In the case at hand, *the Space Race*, a by all means hotter phase of the Cold War, we are talking about a present which in the meantime, especially concerning the explicit promotion of a simple East/West adversarial relationship, has long since passed, but the patterns of which are possibly still influencing our view of the future even today even despite all the change, on this side, as well as the other side of the former Iron Curtain.

46 Niklas Luhmann, *Organisation und Entscheidung*, Wiesbaden 2000, p. 23.

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Picture credits

Fig. 1a: Front page of the magazine *Popular Mechanics* (issue August 1959).

Fig. 1b: Front page of the magazine *Time* (December 12th 1968).

Fig. 2: Front Page of the newspaper *Komsomolskaja Pravda* (May 6th 1957).

Fig. 3: Excerpt from the front page of the newspaper *Bild* (October 7th 1957).

Fig. 4: *Science Digest* (53)1958, p. 29.

Fig. 5: Screenshot from the first moon landing from broadcasted live by *CBS* (Jul 20th 1969).

Fig. 6: Buzz Aldrin next to the American flag, NASA Johnson Space Center (NASA-JSC) ID: AS11-40-5875.

Fig. 7: Screenshot from the opening scene of the music channel *MTV* (September 1st 1981).

Fig. 8: Pravda (June 21st 1969), p.5.

Fig. 9, 11–13, 16, 27b: Screenshots from the movie *Road to the Stars* (DVD-edition: Series Science Fiction Klassiker, ICESTORM 1999)

Fig. 10: Image taken from: Siddiqi, *Red Rocket's Glare,* loc. cit., p. 347.

Fig. 14: Image taken from: Lewis, *The Red Stuff,* loc. cit., p. 163.

Fig. 15: Image taken from: Von Hardesty/ Gene Eisman, *Epic Rivalry. The Inside Story of the Soviet and American Space Race,* Washington 2007, p. 197.

Fig. 17–27a, Screenshots from *Tomorrowland.* Disney in Space and Beyond (DVD-edition: Series Walt Disney Treasures, Walt Disney 2004).