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Schinkel
Saar plebiscite
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The Nazi rocket mail of 1934

In January 1934 a young, small-town, amateur rocket enthusiast with no scientific background, by the name of Gerhard Zucker, undertook a rocket launch designed to carry 'rocket mail' on behalf of the National Socialist People's Welfare Organisation. This article attempts to shed some light on the story behind the launch, as well as on the production and usage of the special stamps and mail of this rocket flight. It will also put forward some theories regarding the motives and actions of the much-maligned and misunderstood Zucker.

Gerhard Zucker in the early 1930s.

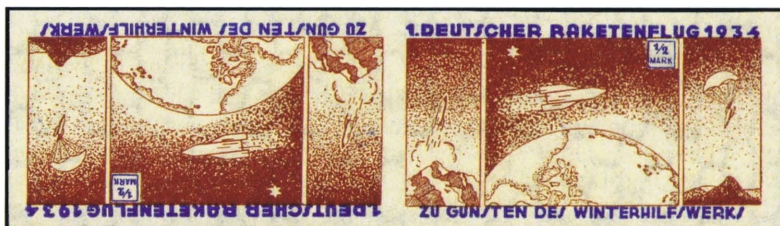
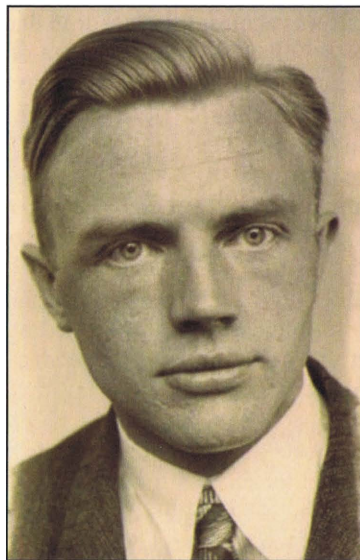


Fig. 1: The ½ Mark stamp of Zucker's rocket flight for the WHW. It is inscribed "zu Gunsten des Winterhilfswerks" (for the benefit of the Winter Relief Organisation).

Historical background

Emerging from the devastation and the shock of defeat in the First World War, Germany had to contend with the fierce hardships imposed by the Allies in the Treaty of Versailles in 1919. Territorial losses and a huge reparations bill crippled German economy and society. Severe army restrictions and the 'guilt clause' further humiliated the proud nation. The new, democratically elected Weimar government did all it could to avert total chaos. However, the Great Depression that followed the Wall Street Crash in 1929 plunged Europe into the dark days of the 1930s. In Germany the economic and social consequences were catastrophic. Thousands of businesses went bankrupt and unemployment soared, affecting nearly every family.¹ Moreover, the voices of extremism found desperate ears and the rise of fascism became a reality. In January 1933 Hitler became Chancellor and by the summer of 1934 he was Führer.

It was against this backdrop that the concept of astronautics and rocketry was born. Not for the first time, from out of the pit of despair man looked at the stars in the sky and dreamt. This time, quite literally, the dream was to reach the stars themselves. Drawing inspiration from Jules Verne's *From the Earth to the Moon* and further fuelled by the 1920s work of Hermann Oberth,² one of the founding fathers of rocketry and astronautics, an entire 'rocket culture' evolved with amateur enthusiasts attempting to create operational rockets that would break free from the confines of gravity and travel into space. Rocketry groups and societies were formed; the most famous of these was the *Verein für Raumschiffahrt* (VFR),³ which used an abandoned military ammunition dump in Berlin as their rocket launching site.

As enthusiasts experimented with the production and the practical uses of rockets,⁴ it was only natural that the idea of transporting mail using rockets should be taken up. In the absence of actual mail to transport, some rocket experimenters created their own commemorative stamps and mail which they flew in their rockets. Their purpose was twofold: to show how rocket mail could work and to make a profit, either for a living or to continue funding their work. These men have come to be known as pioneers of rocket mail and played their own small part in the development of rocketry.

The first to create his own commemorative stamps and rocket mail was the Austrian engineer Friedrich Schmiedl in 1928. In Germany the honour went to Reinhold Tiling, also an engineer, when he flew 188 commemorative cards in one of his rockets in 1931.⁵ Tiling died in 1933 following an explosion in his laboratory whilst preparing a rocket. By then another German had already started experimenting with and promoting his own rocket mail. This man was Gerhard Zucker.

Zucker's rocket flight for the WHW

Gerhard Zucker was born in Hasselfelde, a town in the Harz, in the state of Saxony-Anhalt, on 22 November 1908.⁶ He was charismatic and handsome and, as Max Kronstein put it, "he was easily popular with the people he met".⁷ In fact, he was a mere 24 years of age when he made a demonstration of his dirigible rocket on 9 April 1933 in Duhnen, on the North Sea near Cuxhaven. The large audience present included Nazi Brownshirts, who acted as his assistants.⁸

Zucker went on to carry out many more rocket launches in Germany and in other European countries over the next two years.⁹ However, unlike Schmiedl or Tiling, Zucker was not an engineer or, indeed, a scientist. According to his autobiographical two-page sketch,¹⁰ Zucker's father, a dairy owner who was hit particularly hard by the Depression, sold a few acres of land to fund his son's pursuit of rocketry. Zucker must have presented the idea to his father as an investment and his business move eventually paid off, as in the 1930s rocket mail became a new and very popular collecting area of philately and the price of Zucker's creations rose rapidly.¹¹

Although by January 1934 Zucker had undertaken four rocket flights carrying his own rocket mail, it is his fifth flight which, in my opinion, holds the greatest interest. It is also the flight for which, paradoxically, the least has been written as far



Fig. 2: Zucker demonstrating his 'guided air torpedo' just before the ill-fated launch at Duhnen on 9 April 1933.

as I am aware.¹² Zucker carried out this particular flight on 28 January 1934 in the state of Saxony-Anhalt, in the Harz Mountains, near the town of Thale. The launch took place at Hexentanzplatz, which translates as 'Witches' Dancing Place', a plateau above the Bode Gorge. The rocket was intended to land at Rosstrappe, or 'Hoof Print', a granite crag directly opposite.¹³

The only information I have been able to find on the type of rocket Zucker used

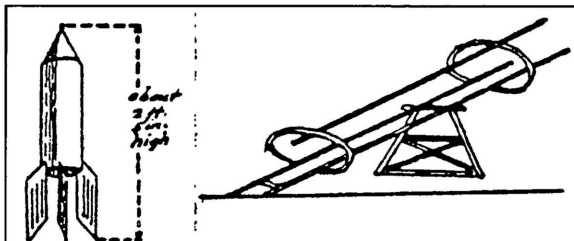


Fig. 3: Zucker's rocket and slipway used for the WHW flight.

for this flight states that it was about 2' 5" in height and a slipway was used for the launch¹⁴. As far as I have been able to discern, there is no reason to believe the flight was not successful.¹⁵

The interest of this flight lies in the fact that it was undertaken in support of the

Nazi Party's *Winterhilfswerk* (WHW), the Winter Relief Organisation. This charity drive, organised annually by the *Nationalsozialistische Volkswohlfahrt* (NSV), the National Socialist People's Welfare Organisation, aimed at providing the essentials – such as food, coal and clothes – to families in need to help them through the harsh German winter. Germans were encouraged and even shamed into contributing. In return, souvenirs were given out, their quality depending on the size of the charitable donation. These souvenirs were highly collectible, as they still are. It is easy to see, therefore, why Zucker would have chosen to assist this charity. Knowing his stamps and covers would appeal not only to rocket mail enthusiasts but also to collectors of the WHW souvenirs, he expected his rocket mail material to sell like hotcakes both during and after the actual flight. That is exactly what happened.

The local branch of the NSV which Zucker was supporting was that in Thale, the town nearest to the location of the rocket launch. Raising funds for the WHW was very much a competition between NSV branches, each vying to come up with a more successful charity drive than the other. Totals were never reported for funds raised by individuals, only for the branch itself, thus placing the effort of the community over the individual. The Thale branch therefore stood to gain a lot by getting behind Zucker's flight.

Zucker may have had another motive for putting on this flight in support of the Nazi WHW charity. He may have been trying to convince the Nazi government that his rocket mail was an idea worth investing in. According to his autobiography, prior to his first flight at Duhnen in April 1933, he had given a presentation to the German Army Weapons Agency (*Heereswaffenamt*, HWA) in Berlin, in an effort to obtain funding of 10,000 Marks to develop a rocket, scaled down in size, which could fly the distance of three kilometres. Ultimately, he had told the HWA, he wanted his rocket to provide an alternative to airplanes, which the Treaty of Versailles had forbidden.¹⁶ The result was not what Zucker had wanted. He was taken away to what he calls a 'loony bin' for psychiatric evaluation as his idea was declared utopian! Perhaps by January 1934 Zucker had not given up hope of receiving state funding. If he could not secure a grant for his rocket as an alternative to airplanes, then maybe he could still get something to develop his rocket as a method of transporting mail. However, Zucker writes that, a year after his presentation, the government was still showing no further interest in his rocket as the review for his proposal remained incomplete.

The purpose of this article is to show that Gerhard Zucker's fifth rocket mail flight was an undertaking coordinated and supported by the NSV and, by extension, the Nazi Party itself. Although the Nazis showed no further interest in Zucker's rocket, this particular flight is unique in that it is the only prewar rocket mail flight with state support and approval in the whole of Europe.



Fig. 4: The Dienstseigel of the Thale NSV branch.

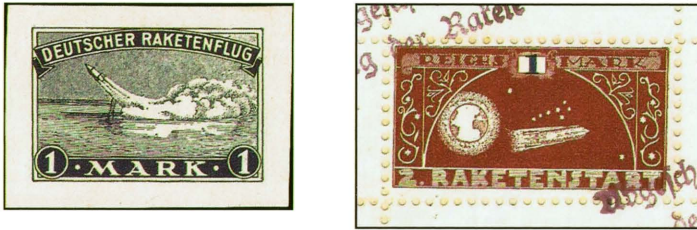


Fig. 5: Zucker's first two rocket mail issues used for his four rocket mail flights in 1933.

The mail of Zucker's fifth rocket flight

The stamps produced for the flight are extremely attractive and, in my view, by far exceed any other rocket mail issues of that time, in Germany or abroad, in terms of quality of paper, design and printing. I believe that, due to the nature of this flight, Zucker had at his disposal the necessary resources to produce rocket mail material of this quality.

Zucker's stamps for his previous flights had been simple in design. His first issue had shown his rocket taking off from the beach at Duhnen, seconds before it embarrassingly crashed in the mud. His second issue was a bland one, showing the rocket in flight (Fig. 5).



Fig. 6: The 1 Mark and 3 Mark values for Zucker's fifth rocket mail flight in their regular colours.

However, the issue for his fifth flight captured how he envisaged his rocket mail system to operate. The stamp's three-panel design shows Zucker's rocket taking off, flying through space over the earth and finally landing with the assistance of a parachute. Three values – ½ Mark, 1 Mark and 3 Marks – were produced by the Duvel Printing Company of Hamburg in sheetlets of eight, in tête-bêche format,

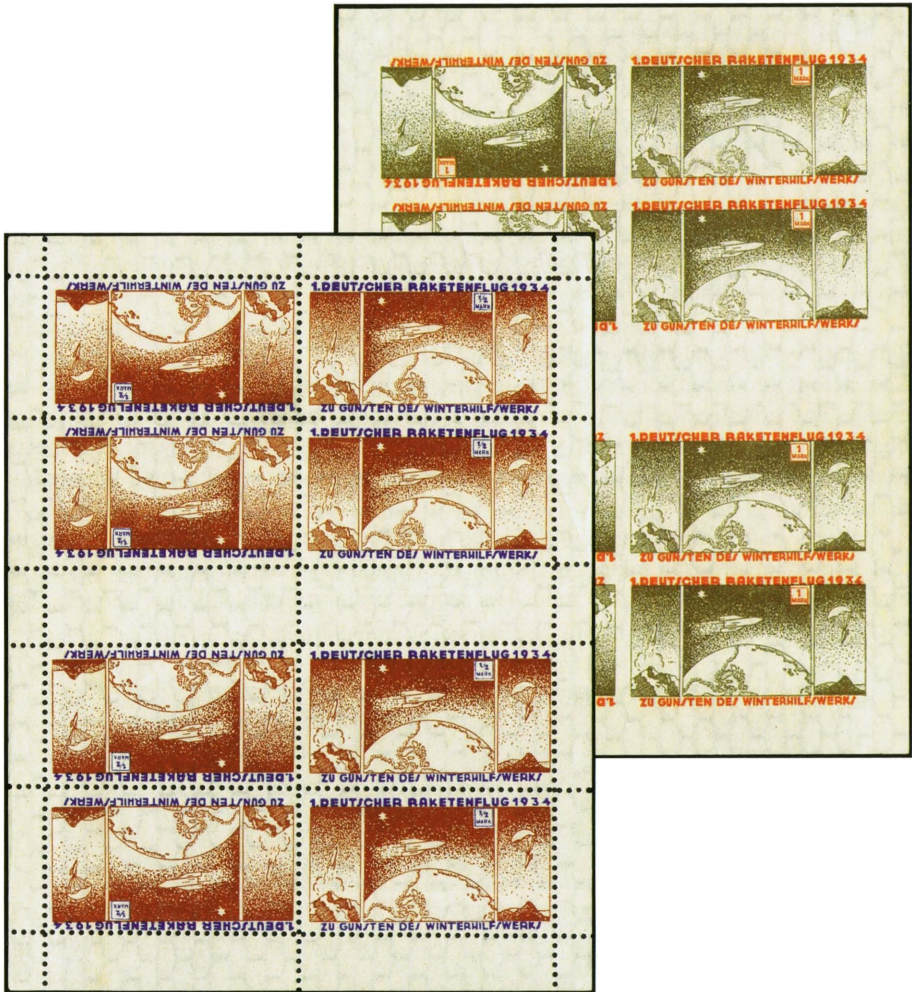


Fig. 7: Sheetlets of eight of the ½ Mark and 1 Mark values in their regular colours, perforated and imperforate, showing the distinct honeycomb watermark.

in both perforated (10½) and imperforate formats. The paper is of high quality and is watermarked with a honeycomb pattern. Zucker's second rocket stamp issue had also been printed by Duvel. However, this time money was invested to ensure the best results as these stamps were produced in bright eye-catching two-colour printing: brown and blue for the ½ Mark value, olive and red for the 1 Mark and silver and black for the 3 Mark. The stamps were sold either in singles or blocks, or affixed to commemorative covers and cards.

Once placed on the cover or card, the stamps were tied by a specially designed **cachet** showing the rocket taking off along with oak leaves and acorn, a typical Nazi symbol, applied in either red or violet. A hand-drawn design of this cachet in black ink and pencil purports to have been made by a graphic designer from Weimar called Schenk. Unfortunately, Schenk is a common German surname and I have been unable to find any information on him. (I have seen a card of this flight addressed to a Kurt Schenk, a member of the NSV in Weimar.) It is possible that the Schenk who designed the cachet is a certain Walther Schenk: this Schenk seems to have designed another of Zucker's rocket mail stamps used



Fig. 8: Schenk's original artwork for the rocket flight cachet in ink and pencil.

later that year for his Trieste flight in Italy on 30 October 1934.¹⁷ Walther Schenk is from Leipzig, quite close to Weimar, so the two Schenks may be the same person. In any case, it is clear that Zucker could commission the artist/designer in question because he had the funds to do so and perhaps because someone in the NSV was able to find this designer, whether in Leipzig or Weimar.

Aside from the rocket mail stamps printed in the colours mentioned above, Duvel produced for Zucker a small number of the same stamps, in the same values, again on honeycomb-watermarked paper, but in a variety of two-colour combinations. These are widely accepted to be **colour trials** and are scarce and much sought-after by rocket-mail collectors.¹⁸ Like the actual stamps the colour trials are either perforated or imperforate. According to the information released by Zucker, for each colour trial stamp there exist 24, 16, 8 or 4 copies; for instance, of the imperforate

1 Mark value in olive and blue only eight copies were produced. Since each sheetlet was made up of eight stamps, that either 24 or 16 or 8 of some of the colour trials were produced makes sense. However, it is not easy to see how only four of certain colour trials were produced, nor is it clear why some were produced in smaller quantities than others. Judging by the fact that these colour trials do come up at auction quite regularly, despite their



Fig. 9: The colour trial for the imperforate 1 Mark in blue and olive.



Fig. 10: Colour trial for the perforated 3 Mark in silver and red on a cover posted to Hamburg via Berlin (transit cds on reverse, 30.1.34), receiving red boxed cachet denoting departure from the Erfurt airport at Weimar.

scarcity, I suspect that Zucker fiddled the information he gave collectors in order to make his items more desirable and more expensive. For example, of the eight copies of the imperforate 1 Mark value in olive and blue allegedly produced, I have already seen four of them (in the mere five years that I have collected German rocket mail), of which three have been on identical cards posted to the famous stamp dealer in Hamburg, Karl Hennig (Fig. 11).¹⁹ It seems clear to me that Zucker produced the colour trials to sell at an inflated price and took orders from dealers eager to supply these items to their customers.

The quantity of the regular stamps produced is also proof, in my view, that Zucker misled collectors to make his productions appear scarcer than they were. According to the catalogues of Kessler (1935), Smith (1955) and Ellington–Zwisler (1967) 400 copies of each of the three imperforated values were produced (1,200 in total) and 600 of each of the three perforated (1,800 in total).²⁰ However, two German catalogues of rocket mail set the figures for the regular issue at 800 for each imperforated value (2,400 in total) and 1,200 for each perforated value (3,600 in total).²¹ The huge discrepancy can only be explained by assuming that Zucker found it a lot easier to lie to foreign collectors/researchers who could not corroborate the data he gave them.



Fig. 11: Colour trial for the imperforate 1 Mark in blue and olive on postcard of the SS Europa, subsequently posted by airmail to Hamburg via Berlin (transit cds, 30.1.34) receiving red linear cachet denoting arrival at Fuhlsbüttel Airport in Hamburg. Signed by Zucker.

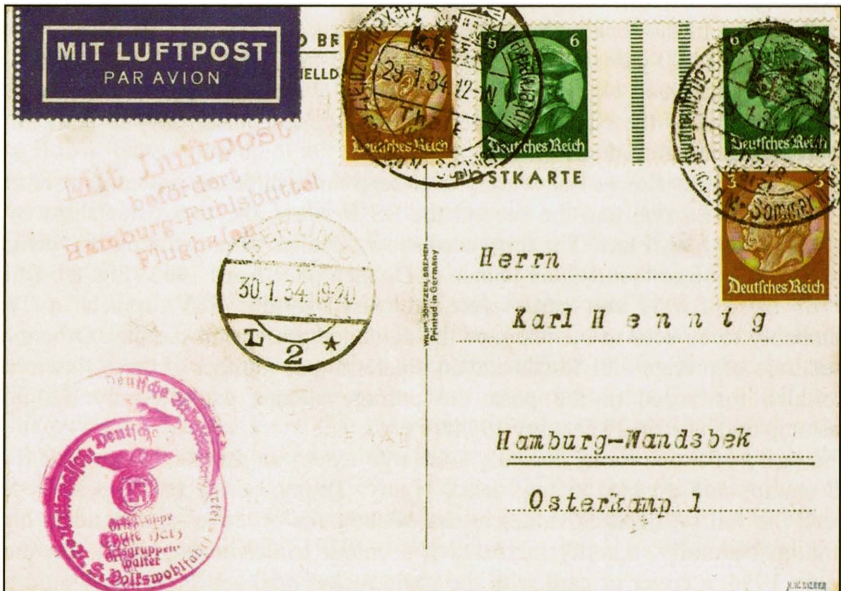




Fig. 12: The SS Bremen.

Further proof of this bending of the truth is the material that is said to have actually flown in the rocket. According to Zucker a total of 700 items were flown: 300 covers and 400 cards. These can be distinguished from non-flown items (later Zucker fabrications, as we shall see below) by the *Dienstsiegel*, the service cachet of the local branch of the NSV in Thale (Fig. 4), applied presumably to authenticate that the items had indeed been flown.²²

Of the 400 cards flown, I have only ever seen three different postcards used. One shows the SS *Europa* and the second the SS *Bremen*, the two sister ships of the Norddeutscher Lloyd line. The third card shows Zucker demonstrating his 'dirigible torpedo' just before the ill-fated launch at Duhnen on 9 April 1933 (Fig. 2). Quite a few of these covers and cards were addressed to the NSV branch in Thale, presumably to be sold to members of the audience present on the day. Others bear the address of private individuals and an indeterminate number of these flown items were also forwarded in the post, the postage stamps cancelled by the postal datestamp of Thale on 29 January 1934.

The rarity of flown items depends to a large extent on the combination of rocket mail stamps and postage stamps used, if any. Today, of the basic, postally used covers, the full set of three values in tête-bêche pairs on cover commands a higher premium. Naturally, scarcity increases if a colour trial is also present. On the 28 January 1934, a cover or card with the basic rocket mail set in singles would have



Fig. 13: Perforated colour trials for the ½ Mark in brown and red and 1 Mark in olive and blue on cover, signed by Zucker.

sold for 4½ Marks with optional postage (Fig. 14). A collector with deeper pockets would have paid 9 Marks, plus the 12pf postage, for the tête-bêche pairs on the cover illustrated (Fig. 15). I believe that colour trials will have been sold at higher than face value. It is easy to see how 700 flown items, plus stamps sold off cover, would have made quite a significant profit. However, the frequency with which these flown items come up at auction indicates that there may very well have been more than 700, and consequently more stamps prepared than Zucker let on.

Unfortunately, we do not know how the proceeds were split between Zucker and the Thale NSV branch. Maybe he got a percentage but I suspect that the majority of the profits from the sale of all covers, cards and stamps at the rocket launch site went to the Thale NSV branch. I believe that Zucker had paid for the order of stamps from the Duvel printing company, and possibly the cachet created by Schenk, and was therefore allowed to keep the surplus of stamps and the cachet. Zucker later used these to produce covers bearing stamps of this flight which he sold for his own gain. Zucker knew that the popularity of rocket mail, coupled with the fact that these items were linked with the Nazis and the WHW, meant he would find no trouble in selling them later on, even at a price higher than the face value of the stamps. It is telling that the basic set on a flown cover was catalogued at 40 Marks in a German catalogue of the 1930s, representing a huge increase in value and reflecting the popularity of Zucker's material.²³



Fig. 14: The basic rocket mail set in singles on a rocket-flown cover posted to Thälendorf.



Fig. 15: The rocket mail set in imperforate tête-bêche pairs on cover posted to Thälendorf (the third pair is on the reverse).



Fig. 16: Cover bearing the basic rocket mail set, not flown on the day and without the *Dienstsiegel* of the Thale NSV branch.

Today covers that were not flown can be obtained fairly easily on the market. The Thale *Dienstsiegel* is, of course, absent and the covers are addressed to “Rakettenkonstrukteur Gerhard Zucker, Thale – Harz”. They can be found with or without Zucker’s signature. A significant source of these items in recent years has been a stamp dealer in the Dominican Republic by the name of Hennig. This Hennig is a direct descendant of the famous Hamburg dealer who I believe bought a large portion of the items Zucker produced after the event.

I also believe that Zucker was allowed to keep a large number of covers bearing a multitude of rocket stamp combinations (including colour trials) alongside the *Dienstsiegel* cachet. Zucker prepared these covers, identical in every way to those sold on the day, and addressed them to a “Herrn Lehrer Erich Beck” in Thälendorf, a small village south of Weimar. These he subsequently posted on the next day, 29 January, at Thale, as he did with many other rocket flown covers (Figs. 13–15). These **Erich Beck covers** form an overwhelming percentage of the covers to be found on the market. Beck must have been someone Zucker knew and trusted, so that Zucker could retrieve the posted rocket mail covers which he could then sell on.



Fig. 17: Proofs or trial impressions on unwatermarked paper, in red and black.



Fig. 18: A set of what appears to be separation proofs, on unwatermarked paper.

That Zucker was able to make a profit on his rocket mail is clear. In May 1934 he attended the APEX International Airpost Exhibition, held in the Royal Horticultural Hall in London, where he exhibited his rocket mail material. I have no doubt this provided him with an excellent opportunity to also sell his material.²⁴ Having spent the summer in Britain he was able to attempt a rocket launch in Italy, where he spent over a month, thanks to the money earned through his rocket mail.²⁵ In fact, to give an idea of how popular Zucker's material was outside of Germany, by 1935 Kessler was cataloguing a basic set of mint imperforate stamps (the ½, 1 and 3 Mark values without any colour trials) at US \$18 and \$20 on cover!²⁶

There is one more matter pertaining to this rocket flight. There exist, in imperforate form and on **unwatermarked paper**, stamps of this rocket mail issue in a variety of colours, each colour in all three values (Fig. 17). So far I know of ten colour varieties. I also know of one such stamp with the value and the inscription omitted, and what appears to be a set of separation proofs in black (Fig. 18). There is not much information on these, though it is clear they were produced using the same plates that Duvel used in the printing of the actual issue. Ellington–Zwisler states that these stamps, “imperf, in various colors, no watermark” are reprints. Sieger calls them test prints and claims they emerged in New York in 1956. However, Smith's catalogue, edited by Kronstein and reprinted in 1955, says that “imperforated stamps of this issue without watermark are proofs”.²⁷ If Smith and Kronstein knew about these stamps in 1955 then Sieger's evidence cannot stand. It seems much easier to me to accept these as proofs or trial impressions, perhaps kept in the printer's archives, since no Zucker cover bearing these is known.

In defence of Zucker

For anyone interested in doing some further reading on Zucker, a basic search on the internet will throw up a number of articles on his activities. However, these articles must carry with them a word of warning for they contain many inaccuracies and misinterpretations. This is mainly down to a virulent case of ‘Chinese whispers’, with ‘.com’ historians repeating various distorted or mistaken conclusions about Zucker. For instance, claims that Zucker joined the Nazis in creating the V-2 missile are nonsense. Furthermore, the suggestions that Zucker was some kind of German spy, or that he was arrested upon return from Britain on suspicion of collaborating with the British, must also be dismissed.²⁸ Aside from there being no evidence for this, as Frank Winter points out, Zucker's “basic technology was only in the rudimentary powder stage and there could have been no important ‘secrets’ there, or for him to have access to secrets”.²⁹

One thing that most if not all verdicts on Zucker have in common is that he was a “fraudster” whose “bogus” rockets did “a great deal to set back scientific rocketry in Germany”.³⁰ Zucker was certainly not a scientist and consequently his rockets were unscientific. Therefore, it would be fair to say that he did not really advance the technology of rocketry (though harsh to say he set it back) as he confined his work solely to standard solid propellants of the day.³¹ However, it would be rather unkind

to dismiss Zucker's intentions because he did not have a scientific background.³² Zucker was an 'ideas man' and he tried very hard to put them into practice, despite his academic shortcomings. He believed his rockets could be built at larger scale to transport over one thousand pounds of mail.³³ He jumped at the opportunity of showing how his rocket could be used to instantly transport messages to and from isolated parts of the UK.³⁴ He attempted a ship-to-shore rocket mail flight in Switzerland in trying to show the versatility of this mode of transporting mail.³⁵ He also seems to have collaborated with the French aviatrix Maryse Hiltz on the practical application of rockets on airplanes as an auxiliary power source in order to achieve higher altitudes.³⁶ Zucker met with mixed success but if his rockets were "bogus", his dreams and designs for his rockets were certainly not.

The most seriously researched article on Zucker that I have come across paints a darker picture of his motives in pursuing rocketry and promoting the idea of rocket mail. Its main thesis is that Zucker's purpose was to sell his rocket to the Nazis as a weapon. It also argues that, having failed to achieve this, Zucker became a callous opportunist whose "alleged pacifism was more accidental than principled", as he tried to scam collectors with his rocket mail.³⁷ To accept this, however, would also deny Zucker's true love of rocketry evident in his correspondence with Max Kronstein, in which it is apparent that he was simply a young enthusiast and a dreamer, brimming with excitement, hope and anticipation over his rocket projects.

More serious are the accusations that Zucker was an opportunistic swindler who falsified much of the information on the rocket mail material he produced. There can be no doubt that he was insincere with the figures he gave out to collectors as to the numbers of covers and cards flown on some of the rocket launches. Moreover, he found himself in serious trouble with the German law when, in 1935, he received a sentence of one year and three months imprisonment for continuous fraud and deceit.³⁸ This was in August 1935 and the sentence was for falsifying the covers of his Swiss launch of 8 July 1935 and possibly the earlier English Channel launch of 8 April 1935, which he tried to sell in Germany.^{39, 40}

What, then, is to be made of these actions? Before passing judgement on Zucker, I think it is important to keep in mind the times that he was living in. For someone like him, from a small town, opportunities in the early 1930s would have seemed very few and far between. In rocketry he found not only a hobby but also a way of producing an income. His pursuit of developing a rocket mail system also took him on travels throughout Europe. Now, how many young men in their mid-twenties, with no higher education, could boast of such adventures at a time of such an economic depression? The courage it must have taken Zucker to pursue his enthusiasm and his dream must be admired. Of course he made mistakes. There were errors of judgement and he did, at times, play fast and loose with the truth. But who at that age has not?

Zucker did not fly any more prewar rockets after his run-in with the law. He fought in the war in the German air force and was invalided in August 1944. He met his wife whilst in hospital and thereafter worked as a furniture dealer. In the 1960s

he started flying rockets once again as a hobby, producing commemorative stamps and covers. Tragedy struck in 1964 when an accident at one of his rocket flights led to the death of at least one man in the crowd of onlookers. Zucker was jailed for six months for involuntary manslaughter and did not fly any more rocket mail. He passed away in 1985.

I would like to thank Frank H. Winter, Walter Hopperwieser and Richard Gollin for giving generously of their time to share their knowledge of Zucker and rocketry. I would also like to thank Rex Dixon for offering his thoughts and insight on the WHW and Zucker's stamps.

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Notes

1. By January 1933 unemployment stood at six million, over one-third of the German workforce.
2. Most notably his two books *Die Rakete zu den Planetenräumen* (1923) and *Wege zur Raumschiffahrt* (1929).
3. Spaceflight Society, but better known as the German Rocket Society. A member of this group was Wernher von Braun, later one of the leading names in the development of rocket technology in Germany and the USA. See Frank H. Winter, *Prelude to the Space Age: The Rocket Societies, 1924–1940* (Washington D.C.: Smithsonian Institution Press, 1983).
4. For a discussion of the various rocket developments in the 1920s see Kronstein, 5.
5. Although these cards are today amongst the most treasured of rocket mail items, it may be that Tiling's intentions were not to develop a postal rocket as such. He did not fly any other rocket carrying mail and when he died in 1933 the 188 cards were sold for the benefit of his widow and children.
6. The best source on Zucker remains the book by Max Kronstein, an airmail and rocket mail expert, who knew Zucker and was in regular contact with him before WWII broke out. Still, there are issues with some of the 'facts' that Kronstein was given by Zucker regarding the validity of some of his rocket flown items, as we shall see in this article.
7. Kronstein, 42.
8. This flight was part of Zucker's effort to secure funding from the German government. No rocket mail was prepared. A fascinating film clip of this rocket flight can be found at

www.criticalpast.com. It shows that his rocket was anything but dirigible: it shot up into the air, spun out of control and crashed back into the mud. In his autobiographical sketch (see note 10), Zucker blamed experts in attendance who forced him to reduce the amount of igniter fuel. He says they claimed it was enough to propel his rocket as far as Heligoland! The sheer size of the rocket must have had something to do with it though and Zucker did not use this type of rocket again.

9. For the definitive account on Zucker's rocket mail launches in Germany (1933 only) and abroad (1934–35) – including the fascinating story of his time in the UK – see Kronstein, 42–62.
10. Entitled 'Mein Lebenslauf', it is held in the biographical files of the National Air and Space Museum in the USA. This contains information that needs to be treated with caution.
11. Such was the interest created surrounding rocket mail that Schmiedl and Zucker were regularly invited to philatelic exhibitions to display their material.
12. Kronstein p.50 mentions it in passing.
13. More information and images of these two locations can be found through the online encyclopaedia Wikipedia.
14. From an article by Julius B. Bock entitled 'The Rockets of the German Inventor', published in *Stamps*, 27 July 1935, p.117. Zucker provided Bock with the sketches and information. For the technical aspects of Zucker's rockets see note 25.
15. A view shared by Walter Hopferwieser, a leading collector and researcher of German and Austrian rocket mail, currently compiling a catalogue of rocket mail material.
16. This has been taken as evidence that Zucker intended to profit from his rocket originally as a weapon of mass destruction.
17. The artwork for this stamp was sold recently at auction (Regency Superior, auction 87, June 2011, lot 76; it sold for \$2,400). A handwritten note on the reverse of the artwork, in English, ascribes it to Walther Schenk of Leipzig. According to the note the artist originally erroneously inscribed the value as 1 German Mark. This was later altered to Italian lire for use in Italy. Kronstein, referring to the rocket flight Zucker carried out in Britain in July 1934, notes, "For these experiments a German artist prepared an essay for use on the rocket stamp, but it was never actually used" (p.48). I believe Kronstein is talking about Schenk's design (which Zucker kept and used in Italy in October) and which we may subsequently date to June–July 1934. Therefore Schenk of Weimar in January 1934 may very well be the same person as Schenk of Leipzig of July 1934, simply having moved during that time.
18. Only Kessler differs, as far as I am aware, referring to them as proofs (p.32).
19. In his catalogue produced in the 1930s Günther Heyd writes in reference to the colour trials, "when the official stamps at the launch place were sold out, the colour trials were used regularly as well" (p.11). This is another case of misinformation. The cards bearing the imperforate 1 Mark olive and blue, clearly pre-ordered and prepared in advance for Hennig, make it clear that the colour trials were sold along with the regular issues.
20. Ellington–Zwisler, 48; Kessler, 31–32; Smith, 26–27.
21. Heyd, 11; Sieger, 15–16.
22. Heyd, 11; Sieger, 9; Smith, 27. Ellington–Zwisler does not make the distinction.
23. Heyd, 13. The face value of this cover – and original sale price on 28 January 1934 – would have been 4½ Marks (see Fig. 14).

24. For the excitement these items must have caused see Kronstein, 47.
25. Kronstein, 52.
26. A little play on the internet allowed me to find that \$20 in 1935 would have the buying power of \$322.08 in 2011! I am not sure how valid this conversion is, but it does make me wonder what Zucker's profits must have been like!
27. Ellington–Zwisler, 48; Sieger, 17; Smith, 26.
28. "Was he attempting to identify suitable ports to recharge German U-boats or to establish the grade of British-supplied explosives in the event of war?" in 'German's "air mail" idea goes up in smoke' by Will Springer, published on www.heritage.scotsman.com.
29. Private correspondence. Frank H. Winter is a leading scholar of the history of rocketry and retired Curator of the National Air and Space Museum, Smithsonian Institution.
30. The entry for Zucker at www.astronautix.com.
31. Most likely gunpowder with additives, and perhaps he may have also used chlorates (private correspondence with Frank H. Winter, who also describes Zucker as an "unscrupulous", albeit "very colorful", rocket mail pioneer).
32. According to Kronstein (p.52), when asked about flying rockets to the moon or other planets, Zucker's answer showed a grasp of the problems with such an undertaking. Kronstein includes this in his discussion of Zucker, although the information was not conveyed to him in person. Kronstein seems to have found a report of Zucker's answer from a newspaper article. According to Kronstein, Zucker spoke of the complications involved in rocket flight, such as the explosive materials necessary, to the problems of dealing with the immense pressure the rocket would sustain as well as the need for an explosive propulsion to make the rocket's return possible. Winter believes that Zucker was simply citing general knowledge about rocketry that would have been readily available in newspapers and magazines of the time. Therefore, Zucker was not a real rocket technologist although he does seem to have a rudimentary understanding of the science of rocketry. From private correspondence with Frank H. Winter.
33. Kronstein, 52.
34. A tale of a woman pregnant with twins on the remote isle of Scarp in the Outer Hebrides without a doctor. See correspondence between amateur rocket builder and historian Richard Gollin and Rem B. Edwards, webmaster for the Robert S. Hartman Institute, at <http://www.hartmaninstitute.org/Rockets.aspx>. Robert S. Hartman knew Zucker personally and details of their relationship can be found in the former's autobiography, *Freedom to Live: The Robert Hartman Story* (Amsterdam, 1994), 35–37.
35. For the very interesting story on these flights, see Kronstein, 56–62. Schmiedl had attempted a similar service in 1933 but to no avail.
36. Nothing seems to have come from this collaboration (Kronstein, 62).
37. See note 16. Christopher Turner's article 'Letter Bombs' in the online magazine *Cabinet* (www.cabinetmagazine.org). The article contains many inaccuracies and factual errors.
38. As reported in the newspaper *Hamburger Fremdenblatt* for 12 August 1935.
39. Walter Hopperwieser believes there was no mail on board the Swiss flight (8 July 1935) and that the English Channel launch (8 April 1935) never actually took place (personal correspondence). Kronstein's account of these two incidents seems to support this conclusion.
40. In his autobiographical notes Zucker claims he was imprisoned by the Nazis for treason – clearly an attempt to cover up this murky aspect of his past.