

Iva Kurelac

John Wilkins and the Issue of Faust Vrančić's Parachute Jump: The Analysis of the Narrative Sources

Abstract: Based on the content analysis, as well as on the established tradition of the Renaissance and early modern narrative sources concerning the art of flying, this article critically considers and disputes the hypothesis established by a number of Croatian 20th century scientists that the English mathematician and bishop John Wilkins (1614 – 1672) described in his work *Mathematical Magick* (London, 1648) the parachute jump of Faust Vrančić from a tower in Venice. The content analysis of the work *Mathematical Magick* (London, 1680) revealed that it does not mention Faust Vrančić, nor his parachute, nor his parachute jump. Moreover, all the narrative sources considering the art of flying, quoted by John Wilkins, are identified and analysed. These are the works by the 16th and 17th century West-European authors: Johann Ernst Burggrave (*Achilles Panoplos redivivus*), Johannes Sturm (*Linguae Latinae resolvendae ratio*), Hermann Friedrich Flayder (*De arte volandi*) and Alvaro Gutiérrez Torres (*El sumario de las marauillosas*). For the first time the tradition of these narrative sources is established, and the work of A. Gutiérrez Torres is identified as its oldest narrative source. Based on Gutiérrez's work, the former assumption that *Elmerus*, whose attempt to fly was also described by Wilkins, was the same person as the English medieval monk Eilmer of Malmesbury, is finally confirmed as well.

Key words: Faust Vrančić, John Wilkins, Johann Ernst Burggrave, Johannes Sturm, Hermann Friedrich Flayder, Alvaro Gutiérrez Torres, Eilmer of Malmesbury, parachute, narrative sources

Introduction

In order to properly reexamine the long-lived hypothesis, established by the Croatian scientists, that the English mathematician and bishop John Wilkins described in his work *Mathematical Magick* (London, 1648) the parachute jump of Faust Vrančić, performed from a tower in Venice, this article delivers a critique of the contemporary scientific literature concerning this particular topic. The content of Wilkins' work *Mathematical Magick* is also analysed, and finally, for the first time, all the narrative sources considering the art of flying quoted by John Wilkins are identified and its content is analysed. The purpose of this study is in the first place to determine whether any of these narrative sources quoted by Wilkins did mention Faust Vrančić and/or his parachute jump. Also, the aim was to establish the tradition of these narrative sources, and finally to identify the oldest narrative source on which Wilkins based his study of the human attempts to fly.

An Overview of the Former Scientific Studies

The parachute, *i. e.* the mechanical device also known as *Homo volans*, is probably one of the most popular and the most recognizable inventions of Faust Vrančić (*Faustus Verantius*, *Fausto Veranzio*, Šibenik, 1 January 1551 – Venice, 20 January 1617) published in his capital work *Machinae novae*.¹ (**Fig. 1**) Vrančić's scientific work in the field of technics was characterized by the fact that, due to the lack of the adequate mathematical and physical apparatus of the time, he interpreted the machines in a phenomenological and practical way. Even so, numerous contemporary devices and constructions were correctly anticipated by Vrančić's solutions.² Therefore, Vrančić's empiric approach both to the building and the mechanical constructions, as well as his constant effort to put the science at the service of the man, could implicate to a certain degree that maybe at some point he did personally test his parachute. In accordance with such an epilogue of Vrančić's possible, but yet unconfirmed personal testing of »the Flying Man«, several legends concerning his attempts to fly with his own parachute survived, and these parachute jumps were allegedly

¹»XXIX. Homo Volans«, Faust VRANČIĆ, *Machinae novae Fausti Verantii Siceni cum declaratione Latina, Italica, Hispanica, Gallica et Germanica*, reprint, Zagreb, 1993, p. 13 and *S. p.*

²For a more detailed bio-bibliographical information about Faust Vrančić see: Iva KURELAC, »Vrančić, Faust«, *Hrvatski biografski leksikon*, ed. Nikša LUČIĆ, Zagreb, 2018, (the on-line edition). URL: <http://hbl.lzmk.hr/clanak.aspx?id=12009>; (16/12/2019).

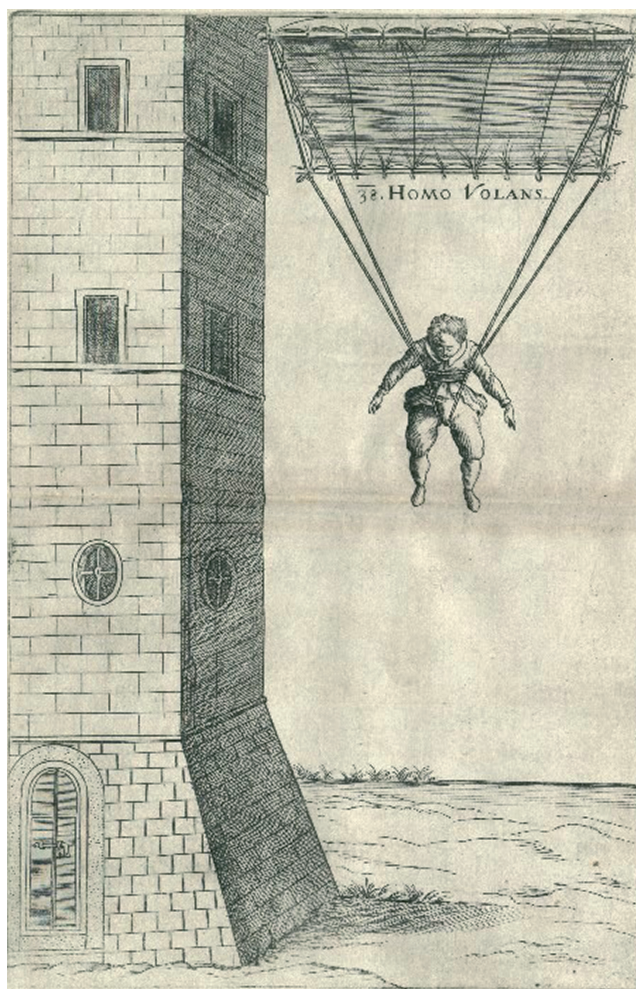


Fig. 1: Facsimile, »38. Homo volans«, Faustus VERANTIUS, *Machinae novae cum declaratione Latina, Italica, Hispanica, Gallica et Germanica*, Venice, (S. a.), S. f.

performed in the cities of Veszprém and Wrocław.³ Among the narrative sources that supposedly testified of Vrančić's parachute jump from the St. Mark's steeple in Venice, the work of the English mathematician and bishop John Wilkins *Mathematical Magick, Or, The Wonders that May be Performed by Mechanical Geometry* held a prominent position within the Croatian scientific

³Milivoj ZENIĆ, *U pohvalu od grada Šibenika: Pisana riječ od najstarijih vremena do danas*, Šibenik, 2002, p. 127; Gojko NIKOLIĆ, *Život i izumi Fausta Vrančića: Treće prošireno i dopunjeno izdanje*, Zagreb, 2018, pp. 157-158; There is also a mention of Vrančić's jump supposedly performed from the towers in Bologna. Stanislav ŠKOBRENE, *Padobran kroz vijekove*, Zagreb, 1957, p. 26.

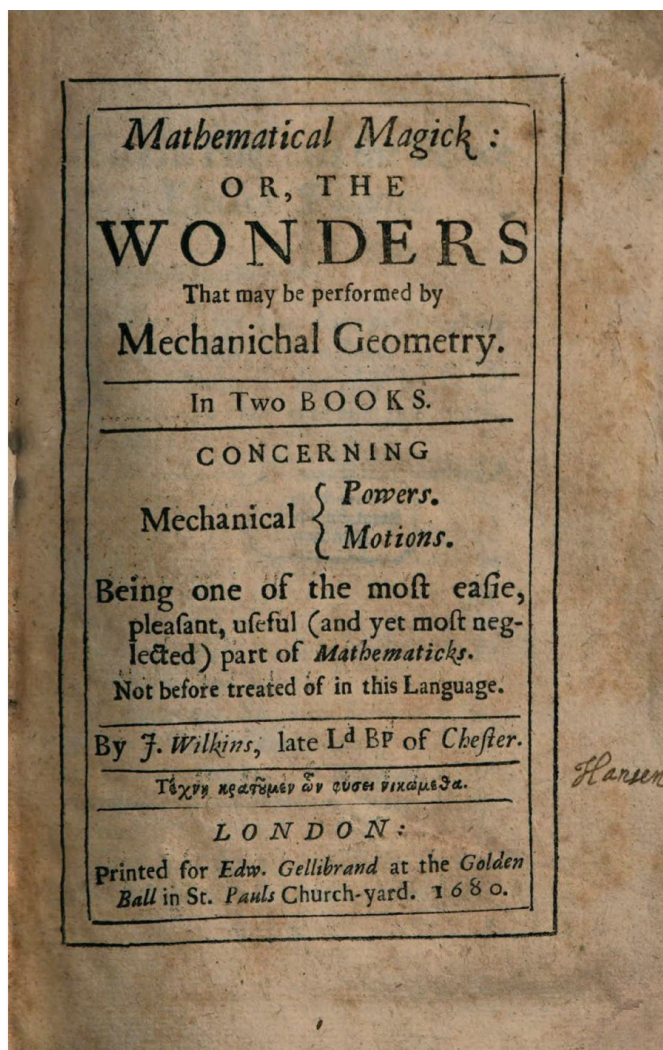


Fig. 2: Facsimile, John WILKINS, *Mathematical Magick, Or, The Wonders that May be Performed by Mechanichal Geometry*, London, 1680, front page

literature for decades. (Fig. 2) In other words, since the middle of the 20th century, the hypothesis that Wilkins described Vrančić's experimental parachute jump preformed in Venice became deeply rooted and widely accepted among the Croatian scientists. The first one who established this hypothesis in Croatia was Stanislav Škoberne. With more or less skepsis many other Croatian scientists after Škoberne also accepted the possibility that Vrančić personally tested his parachute. Some of these authors mentioned only that Vrančić did personally try out his parachute, but they did not mention Wilkins as a source of that

hypothesis. The others did mention Wilkins intermediately, and they mostly referred themselves to Škoberne, but none of them quoted the work *Mathematical Magick*. Therefore, it is very unlikely that anyone of these scientists indeed read Wilkins.⁴ That is why it remained unclear how the hypothesis about Vrančić's parachute jump exactly appeared in the Croatian history of science and what was the reason why the work *Mathematical Magick* was mentioned as its source. There is no doubt that the way in which Vrančić constructed his parachute kept the public interest aroused for centuries after *Machinae novae* came out of print. For this reason it is quite possible that perhaps at some point somebody else personally tested similar parachute based on the project *Homo volans* of Faust Vrančić. For instance, F. Savorgnan di Brazza made a general conclusion about the parachute of Faust Vrančić, the inventor from Dalmatia, and he wrote that, due to its simple construction, his parachute most likely did encourage the brave ones to try it out for the sake of the public performance, but di Brazza left this statement completely unargued, and he did not mention the fact that Vrančić personally tested his flying device.⁵

After we established that, concerning this particular topic, the Croatian scientific literature mentioned John Wilkins and his *Mathematical Magick* only intermediately, we determined to check on the authenticity of the scientific statements about the parachute jump of Faust Vrančić by consulting the original work of John Wilkins. The conducted content analysis of the *Mathematical Magick* has confirmed that it does not mention Faust Vrančić, nor his parachute, nor his parachute jump.⁶ Hereby we managed to dispute the long-lived

⁴ The literature about the parachute jump of Faust Vrančić can be divided into two groups. In the first group the authors mention that John Wilkins described Vrančić's jump (but neither one of them quoted Wilkins). See: S. ŠKOBRENE, *Padobran*, p. 26; Vladimir MULJEVIĆ, »Hrvatski znanstvenici Antun i Faust Vrančić«, *Encyclopaedia Moderna*, vol. XIV, no. 2(42), Zagreb, 1993, p. 133; Žarko DADIĆ, »Prirodnoznanstveni i metodološki aspekt Vrančićeva rada«, *Encyclopaedia Moderna*, vol. XIV, no. 2(42), Zagreb, 1993, p. 141; Žarko DADIĆ, *Povijest egzaktnih znanosti u Hrvata: Egzaktne znanosti u Hrvata do kraja 18. stoljeća*, vol. 1, Zagreb, 1982, p. 128; M. ZENIĆ, *U pohvalu*, p. 127. The authors in the second group do not mention the work *Mathematical Magick*, nor John Wilkins, but they do mention that Faust Vrančić did personally perform the parachute jump in Venice. See: Vladimir MULJEVIĆ, »Water wheels and water supply projects by Faust Vrančić in XVI Century«, *Encyclopaedia Moderna*, vol. XII, no. 36, Zagreb, 1991, p. 22; Marin FRANIČEVIĆ, *Povijest hrvatske renesansne književnosti*, Zagreb, 1983, p. 675; Joanna RAPACKA, »Homo volans o doktoru Faustu i Faustu Vrančiću«, *Dani Hvarškoga kazališta: Građa i rasprave o hrvatskoj književnosti i kazalištu*, vol. 20, Split, 1994, p. 99; »Vrančić, Faust«, *Hrvatska opća enciklopedija*, vol. 11, ed. Slaven RAVLIĆ, Zagreb, 2009, p. 500.

⁵ F. SAVORGNAN DI BRAZZA, »Un inventore Dalmata del '500: Fausto Veranzio da Sebenico«, *Archivio storico per la Dalmazia*, vol. XIII, Rome, 1932, p. 60.

⁶ The *editio princeps* of the work *Mathematical Magick* by John Wilkins was published in London in 1648, but it was not available to us, so for the purpose of this research we consulted the edition from 1680. Cf. John WILKINS, *Mathematical Magick, Or, The Wonders that May be Performed by Mechanical Geometry*, London, 1680, *passim*. (URL: https://reader.digitale-sammlungen.de/de/fs1/object/display/bsb10922793_00009.html; 10/12/2019).

hypothesis of the Croatian scientists that John Wilkins described the parachute jump of Faust Vrančić from the St. Mark's steeple in Venice.⁷

The Analysis of the Narrative Sources Concerning the Art of Flying Quoted by John Wilkins

Due to the lack of the systematic scholarly analysis of the narrative sources that John Wilkins quoted in order to discuss the various techniques that people tried over the past to successfully fly, this research is also focused on establishing the tradition of these narrative sources.

There are two main reasons why it was necessary to conduct the analysis of the narrative sources quoted by John Wilkins in the chapter *De arte volandi*. In the first place, it would definitely confirm whether any of these sources mentioned Faust Vrančić and/or his parachute jump. Secondly, based on the analysis of the narrative sources that Wilkins quoted concerning this particular topic, as well as on the analysis of the narrative sources quoted by the authors quoted by Wilkins, it would be possible to establish a complete overview of the Renaissance and early modern tradition of these texts. Finally, it would also make possible the identification of the oldest available narrative source(s) on which Wilkins based his study of the human attempts to fly. Such an ubication and identification of the narrative sources, as well as the establishing of the chronological connection between them, starting from the sources quoted by Wilkins himself, up to the sources he adopted intermediately, and conclusively with the oldest narrative source in this tradition, would help to precisely identify and analyse all the available narrative sources that Wilkins quoted concerning

⁷While conducting the research of the narrative sources and the scientific literature concerning the issue of the parachute jump of Faust Vrančić performed in Venice and/or elsewhere, I came across a digital copy of the edition of the *Mathematical Magick* by John Wilkins from 1680. In 2015 I provided my colleague, professor Gojko Nikolić, who also did a research on this particular topic, with that copy of the *Mathematical Magick* (London, 1680) and I also informed him that, based on the content analysis of the aforementioned narrative source, I came to the conclusion that the scientific hypothesis that John Wilkins described the parachute jump by Faust Vrančić was incorrect, because he did not mention Faust Vrančić, nor his parachute, nor his parachute jump. After he got an insight into the work *Mathematical Magick*, professor Nikolić also came to the same conclusion as I did. See: Gojko NIKOLIĆ, *Život i izumi Fausta Vrančića: Drugo prošireno izdanje*, Zagreb, 2016, p. 123, n. 1, (printed in April 2016); Gojko NIKOLIĆ, *Život i izumi Fausta Vrančića: Treće prošireno i doručeno izdanje*, p. 158, n. 2; I also presented this cognition of mine in the TV series *Hrvatski velikani: Faust Vrančić*, author: Robert Knjaz, Croatian television, (broadcasted 21/2/2017); Afterwards Marijana Borić also presented the same conclusion. Marijana BORIĆ, »Faust Vrančić: 400 years after the publication of his work *Machine novae*«, *Croatian Studies Review*, vol. 12, Sidney, 2016, p. 66 (published in March 2017).

the art of flying, as well as to confirm whether the tradition of these sources holds any testimony of the parachute jump of Faust Vrančić.

The English mathematician and bishop of Chester, John Wilkins,⁸ divided his work *Mathematical Magick, Or, The Wonders that May be Performed by Mechanical Geometry*, (London, 1680),⁹ into two books: Book 1 (in 20 chapters), *Mechanical Powers (Or Archimedes)*, pp. 1-144; and Book 2 (in 15 chapters), *Mechanical Motions (Or Daedalus)*, pp. 145-295. It is noticeable that the scientific interests of John Wilkins were also largely influenced by the models and the topics derived from the tradition of antiquity, particularly from the scientific and mythological corpus of the ancient Greece. Wilkins demonstrated his classical erudition on the front cover of the *Mathematical Magick* by quoting Aristotle's *Mechanics*.¹⁰ When addressing the reader, he mentioned Heraclitus,¹¹ he titled both books of the *Mathematical Magick* after the ancient Greek scientist Archimedes and after mythical Daedalus,¹² and he emphasized the priority that they had in reducing of the mathematical principles to the mechanical experiments.¹³ Therefore, taking into account the importance that the ancient context concerning the human attempts to fly obviously had for the English mathematician, it is easy to understand why he included this particular topic in his work *Mathematical Magick*.

In the context of the ancient tradition and its inherent influence on the Renaissance scientists, it can be assumed that Faust Vrančić maybe constructed the mechanical device *Homo volans* also by looking up to the classical antiquity. However, we have no evidence that he indeed personally tested his parachute. In the book

⁸John Wilkins (Fawsley, 1614 – London, 1672) was a theologian and natural philosopher, centre of group of men who formed the Royal Society 1662, and the first secretary. Filled numerous important ecclesiastical and university posts. Published *The Discovery of a World in the Moone; Discourse Concerning a New Planet Tending to Prove, that ('Tis Probable) Our Earth is One of the Planets; Mercury, the Secret and Swift Messenger; Mathematical Magick; An Essay Towards a Real Character and a Philosophical Language* and other works. John HENRY, »Wilkins, John«, *Oxford Dictionary of National Biography*, eds. H. C. G. MATTHEW and Brian HARRISON, Oxford, 2004, pp. 982-985.

⁹The work *Mathematical Magick* was influenced by Guidobaldo del Monte and Marin Mersenne, as an attractive and effective medium of popularization it was offered as a practical manual rather than as a work of theoretical exposition. »Wilkins, John«, *Oxford Dictionary of National Biography*, p. 983.

¹⁰»Τέχνη γὰρ κρατοῦμεν, ὧν φύσει νικώμεθα. [We by skill gain mastery over things in which we are conquered by nature.]«, Aristotle, *Mechanica*, 847a 20-21; Cf. J. WILKINS, *Mathematical Magick*, front cover, S. p.

¹¹J. WILKINS, *Mathematical Magick*, »To the reader«, S. p.

¹²J. WILKINS, *Mathematical Magick*, p. 1, 145.

¹³J. WILKINS, *Mathematical Magick*, »To the reader«, S. p.

2 of the *Mathematical Magick*, in the chapter 7, titled »Concerning the Art of Flying: The Several Ways Whereby This hath been, Or May be Attempted« there is no mention of Faust Vrančić, nor he was mentioned in the rest of that book.¹⁴ Based on several narrative sources, Wilkins listed a series of the attempts to fly by jumping from a tower. He mentioned the jump performed by the monk Eilmer, as well as the jumps of the anonymous performers, taken from the St. Marks' steeple in Venice, in Nürnberg and in Constantinople.¹⁵ (Figs. 3 and 4) In spite of the fact that Wilkins did not attribute any of these attempts to Faust Vrančić, the anonymous jumper from the St. Mark's steeple in Venice,¹⁶ mentioned by the English mathematician, was, as we elaborated, completely unfounded identified by the Croatian scientists as Faust Vrančić. In order to additionally investigate if any of the narrative sources quoted by John Wilkins concerning the art of flying did mention Faust Vrančić, all these sources will for the first time be analysed here.

Based on the comparative content analysis of the narrative sources from the chapter 7 of the book 2 of the *Mathematical Magick*, we have established that John Wilkins adopted the fact about the jump performed in Nürnberg from the work *Achilles Panoplos redivivus, seu Panoplia physico-vulcania* (Amsterdam, 1612) by a German physician and alchemist Johann Ernst Burggrave.¹⁷ (Fig. 5) When considering the human attempts to fly, in the chapter titled »The Winged Man« (*Homo alatus*), Burggrave wrote about an old man, the singer from Nürnberg, who flew up on wings into the air like a bird, but he eventually by accident crashed on to the ground, due to the carelessness and the incorrectly attached wings.¹⁸

¹⁴J. WILKINS, *Mathematical Magick*, p. 204 and *passim*.

¹⁵»'Tis related of a certain English monk called Elmerus, about the Confessors time, that he did by such wings fly from a tower by a furlong; and so another from Saint Marks steeple in Venice; another at Norinberge; and Busbequius speaks of a Turk in Constantinople, who attempted something this way.«, J. WILKINS, *Mathematical Magick*, p. 204; Wilkins also mentioned the jump performed in Constantinople in the 1st book of his work *The Discovery of a New World*, titled »That the Moon May be a World«; John WILKINS, *The Mathematical and Philosophical Works of the Right Reverend John Wilkins, Late Bishop of Chester*, London, 1707, p. 132. (URL: https://reader.digitale-sammlungen.de/de/fs1/object/display/bsb10138478_00005.html).

¹⁶»(...) and so another from Saint Marks steeple in Venice«, J. WILKINS, *Mathematical Magick*, p. 204.

¹⁷There is not much known about the life of Johann Ernst Burggrave – he was born in Neustadt an der Hart, he lived and worked in the 17th century. He is also the author of the works *Biolychnium seu lucerna cum vita ejus*; *Alexipharmacon omnium venenorum*; *De oleis destillatis* etc. »Burggrave, Johann Ernst«, *Allgemeines Gelehrten-Lexicon*, ed. Christian Gottlieb JÖCHER, Leipzig, 1750, p. 1494; *Index bio-bibliographicus notorum hominum*, pars C, vol. 26, ed. Jean-Pierre LOBIES, Osnabrück, 1982, p. 16041; *Deutscher Biographischer Index*, vol. 1, ed. Willi GROZNY, München – London, 1986, p. 297.

¹⁸»Senecio quidam Noribergae praecentor erat, qui alarum geminarum praesidio vel remigio elatus in aëre, instar alitis, vagabatur: et prapetis instar rursus devolabat, etsi casu denique ex imprudentia commisso (quo rotulae, nescio quae, alis affixae, volatumque concitantes, vel implicatae, vel non rite applicatae et praepeditae:) praecipitatus brachia et crura deffringeret.« Ioannes Ernestus BURG-GRAVUS, *Achilles Panoplos redivivus, seu Panoplia physico-vulcania*, Amsterdam, 1612, p. 52.

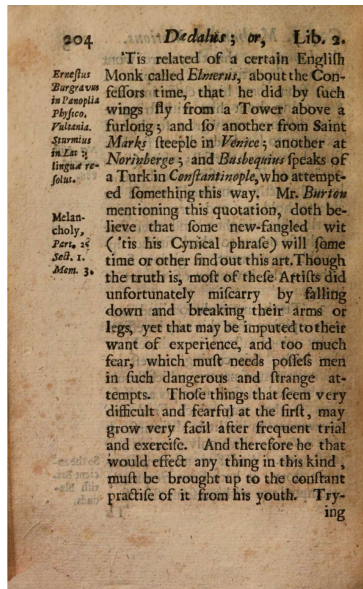


Fig. 3: Facsimile, John WILKINS, *Mathematical Magick, Or, The Wonders that May be Performed by Mechanichal Geometry*, London, 1680, p. 204

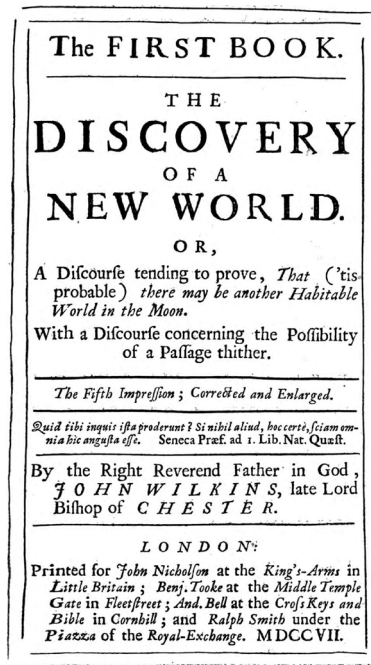


Fig. 4: Facsimile, John WILKINS, *The Mathematical and Philosophical Works of the Right Reverend John Wilkins, Late Bishop of Chester*, London, 1707, front page

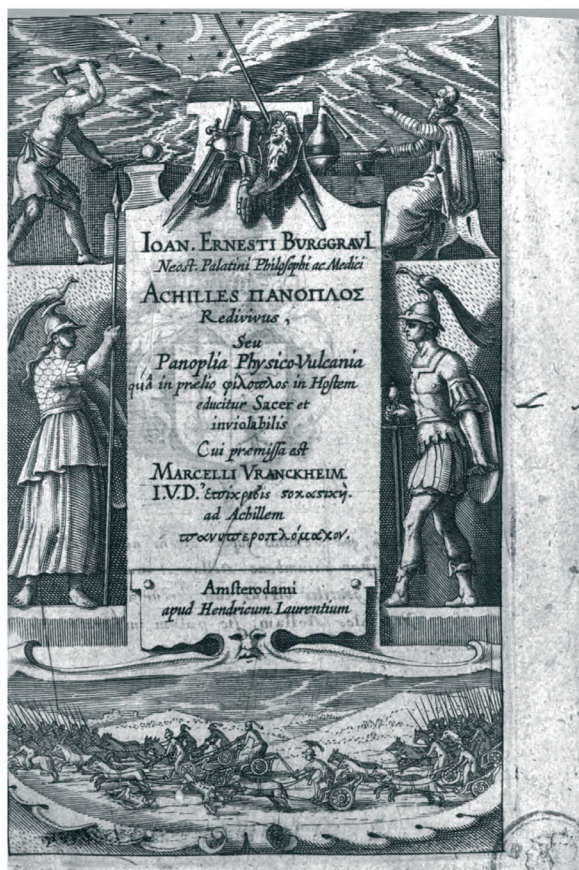


Fig. 5: Facsimile, Ioannes Ernestus BURGGRAVUS, *Achilles Panoplos redivivus, seu Panoplia physico-vulcania*, Amsterdam, 1612, front page

The further comparison of the sources has revealed that Wilkins adopted a description of the anonymous attempt to fly, performed from the St. Mark's steeple in Venice, from the work *Linguae Latinae resolvendae ratio: tradita in celebri Reipublicae Argentoratensis academia*, (Strasbourg, 1581) by a German humanist and educator Johannes Sturm.¹⁹ (Fig. 6) However, this work of Sturm is not dealing with technical issues at all. His book is in fact a didactic treatise about the Latin language, and the aforementioned episode concerning the jump from a tower in Venice was completely pulled out of the context by John Wilkins. In that dialogue Sturm mentioned the jump from a tower only as an

¹⁹Johannes Sturm, a rhetorician and diplomat (1507-1589). One of the most influential educators and Protestant reformers of the European 16th century education system. Published numerous pedagogical and rhetorical works. Herbert JAUMANN, »Sturm(ius), Johann(es) (Jean)«, *Neue Deutsche Biographie*, vol. 25, Berlin, 2013, pp. 654-656.

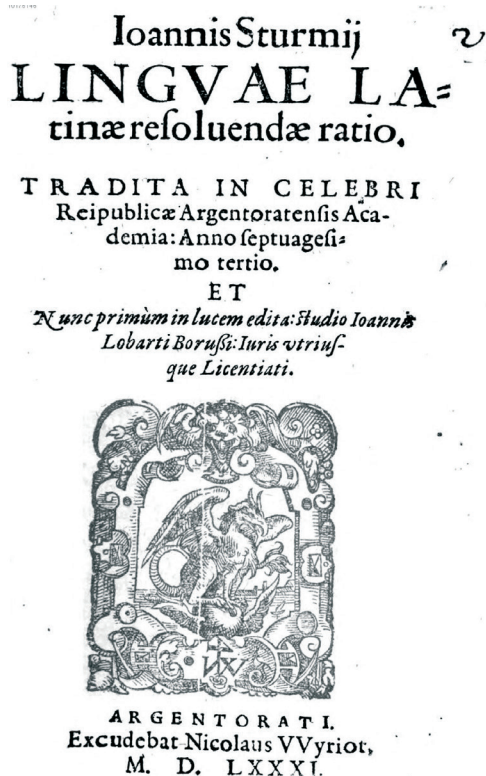


Fig. 6: Facsimile, Joannes STURMIUS, *Linguae Latinae resoluendae ratio: tradita in celebri Reipublicae Argentoratensis academia*, Strasbourg, 1581, front page

example to elaborate the principles of the subordinate clause in the Latin language, and his aim was not to consider the art of flying from a technical aspect.²⁰

When describing the other known attempts to fly by the wings attached to the body, Wilkins also quoted the work *De arte volandi* by a German humanist Hermann Friedrich Flayder.²¹ (Fig. 7) In the form of a speech Flayder

²⁰»Alius quidam dixit, se velle se demittere ex turre D. Marci Venetiis: fecit itaque se alatum et demisit se. Tunc alter dixit et ego hoc fecissem, si dixisses te velle alis uti. Respondit is, cur igitur non fecisti. Sic etiam, si quisquam mihi dixerit, cuius est hanc rationem inuenire: dicam ego, cur tu non inuenisti.«, Joannes STURMIUS, *Linguae Latinae resoluendae ratio: Tradita in celebri Reipublicae Argentoratensis academia*, Strasbourg, 1581, p. 40.

²¹J. WILKINS, *Mathematical Magick*, p. 203; Friedrich Hermann Flayder, poet and philologist (1596-1640). Professor and librarian at the University of Tübingen, he also taught classics. The author of *Argenis incomparabilis; Moria rediviva; Orationes et epigrammatum libellus; Sal musarum* etc., Gustav BEBERMEYER, »Flayder(us), Friedrich Hermann«, *Neue Deutsche Biographie*, vol. 5, Berlin, 1971, pp. 225-226.

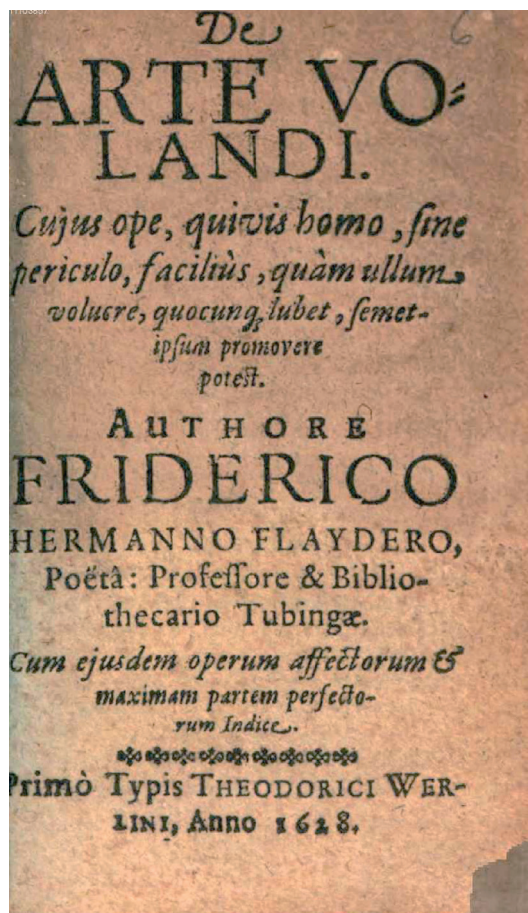


Fig. 7: Facsimile, Fridericus Hermannus FLAYDERUS, *De arte volandi cujus ope, quivis homo, sine periculo, facilius quam ullum volucre, quocunq[ue] lubet, semet ipsum promovere potest*, (S. l.), 1628, front page

elaborated »the real art of flying«. He tried to prove that a man can fly as well, and in such context he referred to the book of Alvaro Gutiérrez Torres of Toledo, which he quoted as *Compendium miraculorum*. The further analysis of the narrative sources proved that Flayder first adopted the fact about the flying English monk *Elmerus* from Gutiérrez, and that Wilkins adopted it later from Flayder. However, Wilkins noted the name of the English monk only as *Elmerus*, while Flayder noted his name as *Elmero ex Malmaberia*.²² (Fig. 8) This is particularly important because it definitely confirmed what has so far only been

²²J. WILKINS, *Mathematical Magick*, p. 204; Fridericus Hermannus FLAYDERUS, *De arte volandi cujus ope, quivis homo, sine periculo, facilius quam ullum volucre, quocunq[ue] lubet, semet ipsum promovere potest*, (S. l.), 1628, pp. 23-24.

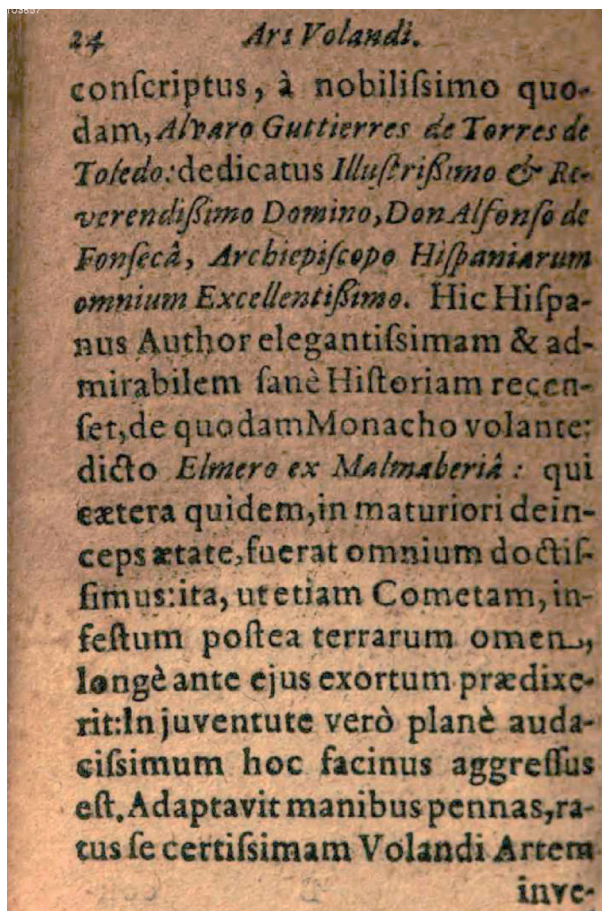


Fig. 8: Facsimile, Fridericus Hermannus FLAYDERUS, *De arte volandi cujus ope, quivis homo, sine periculo, facilius quam ullum volucre, quocunq[ue] lubet, semet ipsum promovere potest*, (S. l.), 1628, p. 24

assumed²³ – that the English monk Eilmer of Malmesbury (11th century) was indeed the same person as *Elmerus*, mentioned by Wilkins. It should also be mentioned that the analysis of the narrative sources did confirm that Wilkins quoted the same sources and adopted the same parts of the text from the works of Burggrave and Sturmius as Flayder did (for example, except the episode about the flying monk Eilmer, Wilkins also mentioned the attempt to fly with the wings performed in Nürnberg, as well as the jump performed from the St. Marks' steeple in Venice).²⁴

²³ About this assumption see more in: Gojko NIKOLIĆ, *Život i izumi Fausta Vrančića: Drugo prošireno izdanje*, p. 125; Gojko NIKOLIĆ, *Život i izumi Fausta Vrančića: Treće prošireno i dorađeno izdanje*, pp. 161-163.

²⁴ F. H. FLAYDERUS, *De arte volandi*, pp. 25-26.

Finally, in the context of the tradition of the narrative sources quoted by Wilkins, we can assume that, based on all the aforementioned facts, Wilkins most likely quoted Flayder directly, and Burggrave and Sturm intermediately, from Flayder, and that he adopted the fact about the monk Eilmer in the same way.

As the oldest narrative source on which Wilkins intermediately based his considerations of the attempt to fly performed by the monk Eilmer (*Elmero d' Malmaberia*), we eventually identified the work by Alvaro Gutiérrez Torres,²⁵ originally titled *El sumario de las marauillosas y espantables cosas que en el mundo han acondescido* (Toledo, 1524).²⁶ (**Fig. 9**) The collation of the key part of Flayder's work with Gutiérrez's has confirmed their general concordance, but we also detected the slight paraphrase in Flayder's translation of the original text of Gutiérrez in Spanish.²⁷ (**Fig. 10**)

The analysis of the narrative sources concerning the art of flying, quoted by John Wilkins, as well as the analysis of the sources quoted by the authors quoted by Wilkins, has additionally confirmed that neither one of them – neither Burggrave, nor Sturm, nor Flayder, nor Gutiérrez Torres – mentioned Faust Vrančić and/or his parachute jump. A general overview of the topics of the works of these authors has revealed that Wilkins, even though an early modern mathematician, was still largely influenced by the humanist scholarly canon. This is particularly noticeable from the fact that in the chapter 7 of the book 2 of his *Mathematical Magick*, Wilkins predominantly quoted the authors whose opus corresponded with the Renaissance *studia humanitatis*.²⁸

Even though we did not find the proof that anyone of the Croatian scientists dealing with this topic indeed consulted Wilkins' work *Mathematical Magick*, it can be concluded that the part of its book 2, chapter 7, was wrongly interpreted in Croatian scientific literature. In other words, the assumption that John Wilkins was the one who described the parachute jump of Faust Vrančić, performed from the St. Mark's steeple in Venice, was completely incorrect. Although this research has confirmed that within the analysed narrative sources there was no written evidence that Faust Vrančić personally tested his parachute, this is

²⁵ Alvaro Gutiérrez Torres was a Spanish 16th century author, probably born in Toledo. Nothing else is known about his life. He published *Breve compendio de las alabanzas de la astrologia* in the same volume with *Sumario de las maravillosas*. »Gutiérrez de Torres de Toledo (Alvaro)«, *Enciclopedia universal ilustrada: Europeo-Americana*, vol. XXVII, Madrid, 1925, pp. 375-376.

²⁶ Alvaro GUTIÉRREZ TORRES, *El sumario de las marauillosas y espantables cosas que en el mundo han acondescido*, S. l., 1524, fol. [35r].

²⁷ F. H. FLAYDERUS, *De arte volandi*, pp. 24-25.

²⁸ In the Renaissance *studia humanitatis* (»the learnings worthy of a man«) enclosed five teaching disciplines: grammar, rhetoric, history, poetry and moral philosophy. Unlike the ancient and medieval division, the Renaissance teaching disciplines did not include medicine, mathematic, astronomy, theology, logic, physics and metaphysics. Darko NOVAKOVIĆ, »Latinsko pjesništvo hrvatskoga humanizma«, *Marko Marulić: Hrvatski latinisti*, Zagreb, 1994, p. 56.



Fig. 9: Facsimile, Alvaro GUTIÉRREZ TORRES, *El sumario de las maravillosas y espantables cosas que en el mundo han acontecido*, (S. l.), 1524, front page

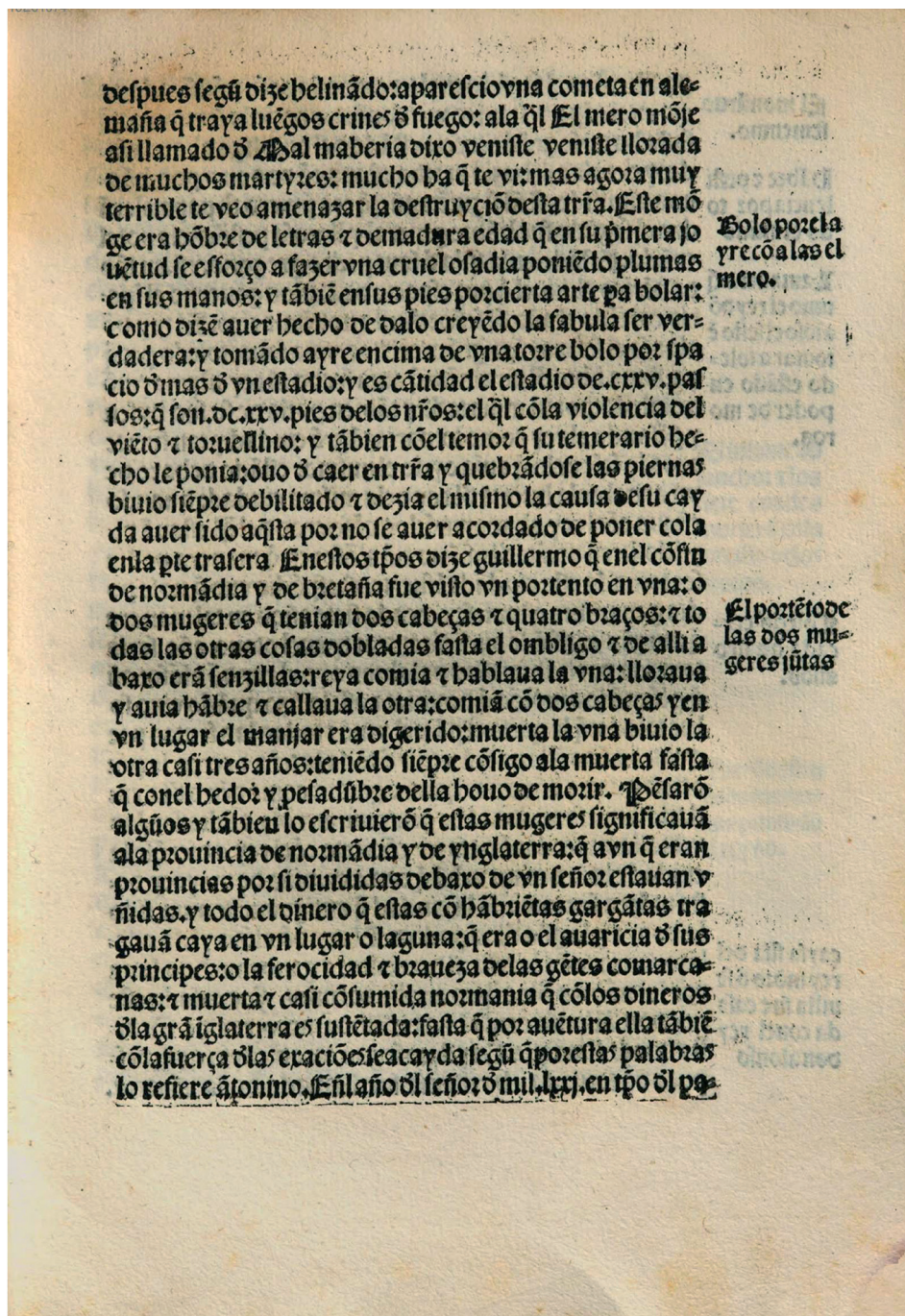


Fig. 10: Facsimile, Alvaro GUTIÉRREZ TORRES, *El sumario de las maravillosas y espantables cosas que en el mundo han acontescido*, (S. I.), 1524, fol. [35r]

the first time that the tradition of the narrative sources concerning the art of flying, quoted by Wilkins, was examined and that all the available narrative sources on which he based his considerations of this particular topic were precisely identified.

Conclusion

The article on three levels critically reexamines and disputes the thesis established by the Croatian 20th century scientists that the English mathematician and bishop John Wilkins described in his work *Mathematical Magick* (London, 1648) the parachute jump of Faust Vrančić performed from a tower in Venice. First, the scientific literature concerning this issue was analysed, and it was established that none of the authors of these studies actually quoted the work *Mathematical Magick*, i. e. that they adopted the thesis about Vrančić's attempt to fly intermediately and without any direct insight into the original work of John Wilkins. Also, the content analysis of the work *Mathematical Magick* (London, 1680) was conducted, and it was confirmed that it does not mention at all Faust Vrančić, nor his parachute, nor his parachute jump. Finally, in order to definitely make clear the possible ways the aforementioned hypothesis was adopted in the Croatian science, as well as to determine whether any of the narrative sources quoted by Wilkins maybe mentioned the parachute jump of Faust Vrančić, all the narrative sources concerning the art of flying quoted by Wilkins were identified and analysed. These are the works of four West-European authors of the 16th and the 17th century, the Germans Johann Ernst Burggrave (*Achilles Panoplos redivivus*), Johannes Sturm (*Linguae Latinae resolvendae ratio*), Hermann Friedrich Flayder (*De arte volandi*) and the Spaniard Alvaro Gutiérrez Torres (*El sumario de las maravillosas*). The content analysis of these narrative sources established that neither one of them mentioned Faust Vrančić, nor his parachute, nor his parachute jump. Also, this was the first time that all the narrative sources about the art of flying, quoted by Wilkins were identified. Finally the tradition of these sources was established, and as its oldest narrative source was identified (*El sumario de las maravillosas* of A. Gutiérrez Torres). This is particularly important because the analysis of Gutiérrez's work confirmed for certain that what was so far only the matter of speculation – that *Elmerus* whose attempt to fly was mentioned by Wilkins, was indeed the English medieval monk Eilmer of Malmesbury (11th century), and that Wilkins adopted this fact intermediately from Gutiérrez.

John Wilkins i pitanje skoka Fausta Vrančića padobranom: Analiza narativnih izvora

Iva Kurelac

Sažetak: Na temelju detaljne sadržajne analize te uspostave tradicije renesansnih i ranonovovjekovnih narativnih izvora koje je engleski matematičar i biskup John Wilkins (1614. – 1672.) citrao u svojem djelu *Mathematical Magick* (London, 1648.) u vezi s umijećem letenja, u radu se kritički razmatra i pobija teza hrvatskih znanstvenika 20. stoljeća prema kojoj je upravo Wilkins opisao skok Fausta Vrančića padobranom s tornja u Veneciji. Pregledom suvremene znanstvene literature ustanovljeno je da se među hrvatskim znanstvenicima teza o Vrančićevom navodnom skoku padobranom preuzimala posredno i bez ikakvog uvida u izvornik spomenutog Wilkinsovog djela. Sadržajnom analizom djela *Mathematical Magick* (London, 1680.) utvrđeno je da se ondje ne spominje niti Faust Vrančić, niti njegov padobran (odnosno naprava *Homo volans*), niti njegov skok padobranom. Identificirani su i analizirani svi renesansni i ranonovovjekovni narativni izvori citirani u djelu *Mathematical Magick* u kontekstu umijeća letenja. Riječ je o djelima trojice Nijemaca Johanna Ernsta Burggravea (*Achilles Panoplos redivivus*), Johannesa Sturma (*Linguae Latinae resolvendae ratio*) i Hermanna Friedricha Flaydera (*De arte volandi*) te Španjolca Alvara Gutiérreza Torresa (*El sumario de las marauillosas*). Premda je utvrđeno da niti jedan od tih izvora ne spominje Fausta Vrančića niti njegov skok padobranom, ovime je po prvi put uspostavljena tradicija svih narativnih izvora koje je Wilkins citirao u vezi s umijećem letenja te je unutar nje identificiran i najstariji narativni izvor (*El sumario de las marauillosas* A. Gutiérreza Torresa). Na temelju Gutiérrezova djela sa sigurnošću je potvrđeno i ono što se dosad samo pretpostavljalo, a to je da je *Elmerus*, čiji pokušaj leta spominje Wilkins, doista ista osoba kao i engleski srednjovjekovni redovnik Elmer iz Malmesburyja (11. st.).

Ključne riječi: Faust Vrančić, John Wilkins, Johann Ernst Burggrave, Johannes Sturm, Hermann Friedrich Flayder, Alvaro Gutiérrez Torres, Elmer iz Malmesburyja, padobran, narativni izvori