

525 Years in the Pursuit of Truth: A New History of The University of Aberdeen

Episode 3

[00:00:02] This podcast is brought to you by the University of Aberdeen.

Dr Bradford Bow [00:00:21] Hello, my name is Dr. Bradford Bow, and I'm a co deputy director of the Research Institute of Irish and Scottish Studies, which is sponsoring the series of podcasts entitled Five Hundred and Twenty Five Years in the Pursuit of Truth A New History of the University of Aberdeen. In this episode, my colleague, Professor Karen Friedrich, who holds a chair in early modern history at Aberdeen University, will examine the thought of Duncan Liddel and his influence on the legacy of medicine and mathematics at Marischal College. And doing so, she will situate Liddel's ideas in the intellectual currents of Northern Europe's age of confessionalism.

Professor Karin Friedrich [00:01:16] Today, I would like to direct your attention to an Aberdeen alumnus whose impact on the University of Aberdeen can be felt until this very day, not least due to the famous book collection he left to Marischal College Library at the beginning of the 17th century. I'm speaking about Duncan Liddel. Duncan Liddel was born into a burger family in Aberdeen a few years before King's College adopted the Protestant Reformation in 1569 in Scotland. King's College stood out since its very first principal, Hector Boece. It had offered the study of medicine alongside more traditional subjects such as grammar, theology and philosophy. Young Duncan Liddel, whose mother was a midwife, received a humanist education first at Aberdeen Grammar and for a short period he attended King's College, where medicine already piqued his curiosity under the guidance of its first Protestant principal, Alexander Arbuthnot. By the end of Arbuthnot tenure, however, the college was in crisis, suffering from falling numbers of students. In consequence, the Earl Marschal intervened in 1582 and founded Marischal College as a new foundation for the borough and the good citizens of Aberdeen. By the time Marischal College came into existence, Liddel had already made his way to the continent, a journey that took him away from Scotland for the next 28 years. In 1578, he chose the way of many young Scots across the sea to Danzig or Gdansk, Poland's Baltic port. Unlike many of his contemporaries, however, who joined the mercenary armies of Europe or sought their fortune in trade, Liddel followed an already established network of Scottish scholars and enrolled in the University of Frankfurt on order, the so-called Viadrina, to study mathematics and medicine with John Craig, who, together with other fellow Scotsman, took him in to share his table. A pre reformation foundation. The Varina, in Liddel time was under the influence of the curriculum reforms by Philip Melanchthon, Luther's friend and co reformer. These reforms sparked a whole wave of new university foundations in the Protestant territories of the Holy Roman Empire, where princes competed with each other for status and influence over the religious changes they wanted to introduce to their principalities. Led by the university in Wittenberg Luther's Home University, other universities that had accepted the Lutheran reforms included Marburg 1527, Koenigsberg in Prussia 1544, Jena in Saxe-Weimer 1558, Helmstedt in the Duchy of Braunschweig, Lunenburg 1567 and Altdorf 1578 founded by the Free Imperial City of Nuremberg. Crucially, Melanchthon had succeeded to the declutter, the Aristotelian content of the humanist curriculum and introduced Greek and Hebrew as languages to access directly not only holy scripture but also sources of classical antiquity. Short of accepting Copernicus's hypothesis on heliocentrism, followers of Melanchthon, the so-called Philippists, accepted the Danish astronomer Tyco Brahe's suggestion of a compromise between Ptolemy's Jiyu centrism and the new theory of heliocentrism that had invigorated mathematical and astronomical scholarship. The reception of Copernicus amongst mathematicians well grounded in Aristotelian natural philosophy spread quickly, although the most radical Copernican thesis of the sun's centrality and immobility were watered

down in the process by focussing on the astronomers minor epicycles and uniform and circular motions. Mélanchthon made no secret of his criticism of what he called Copernicus's intellectual immodesty, hence melungeons reforms try to form a synthesis of Ptolemaic Aristotelian and Copernican theories which followed the idea that natural history and philosophy followed divine providence, revealing to mankind God's wisdom and will, including the creation of man in God's image, astronomical and astrological computation were accepted while heliocentrism was too daring as it would have questioned fundamental biblical teaching in the Lutheran Church, which puts so much emphasis on Sola Scriptura for the salvation of the soul. The separation of theology as a vehicle for revealed truth from the physical explanation of cause and effect based on mathematical hypotheses, soon became highly contested but did not form part of Melanchthon programme. The goal of humanist learning in the Protestant Reform Universities also focussed on the utility and practical applicability of knowledge which the Post Reformation princes and their universities wanted to promote for the education of a new German elite of officials, teachers and church ministers to run the political and economic programmes of state building. In Frankfurt sphere Trina, where Liddel studied the transition from Scholastic, Aristotelianism and Bertolimic ideas of the world to new approaches to science and a hybrid knowledge culture was also in full swing. While strict Nescio Lutherans rejected the Aristotelian corpus for theological reasons, Liddel agreed with the more conciliatory approach of the Philippists who sought to find a compromise with this legacy. The same was tried and tested by a whole number of mathematicians, astronomers and physicians who met up and worked with Duncan Liddel during his long academic pedigree Nazio. This Humanist Republic of Letters was also a community of oral communication, gossip and word of mouth, as Moti Feingold has pointed out, which was not less important than conventional Apicelltely Knowledge Exchange. Liddel's mentor, John Craig, had studied mathematics with the famous German mathematician Paul Wittich and then taught John Napier in Edinburgh, who was as a result, who also who as a result worked out a new system of logarithms. Under the combined influence of John Craig's teaching at the Viadrina and Melanchthon's reformed curriculum, mathematics became Liddel's favourite subject from arithmetic, euclidean geometry, spherical and planetary astronomy to trigonometry and computation of the calendar. Yet mathematics was not a prestigious discipline, and Liddel money could be earned by teaching it alone. Polymathy has often been depicted as a romantic flight of free spirits across the boundaries of academic disciplines. But in most cases, is adoption was of necessity the best method to pursue a career that could earn a decent living. Medicine played a crucial role here as it could be practised outside of academia, and it paid the bills. As a result, almost every mathematician and astronomer also studied, taught and practised medicine, including Craig, who eventually returned to Edinburgh to become James, the sixth's personal physician. In fifteen eighty two, Liddel returned to continue his studies in Breslau, or Wroclaw, then in Hapsburg Silesia, where he met the humanist Andreas Dudith, a former bishop in Hapsburgs service who converted to Protestantism and sympathised with Ed Unitarianism and the site Bohemian Brethren. He also met Craig's own old teacher of mathematics Povity, who introduced Liddel to the Copernican theory. It was here in Breslau that Liddel tried his hand at the study of medicine and philosophy, which, together with law, formed the so-called higher faculties. For all of these disciplines, geometry and astronomy were obligatory preparation's so that a mathematicians choice of medicine in the pre Newtonian world was not as surprising as it might appear today. Johann Kuratov of Kraffheim, a friend and close colleague of Dudith and the Holy Roman Emperors official physician in Vienna, was close to Lutheran Calvinist circles like Dudith. He rejected the influence that was commonly attributed to comments on human fate such as pandemics and miracle births. It is thanks to these contacts in particular, that Liddel got hold of a rare copy of Copernicus's commentary AULUS, an early outline of heliocentric theory of which

only three known copies survive today in Aberdeen, Stockholm and Vienna. While Coppock, Copernicus's original was lost, Liddel transcribed the copy he had received in Wittich's own hand and bounded together with his own copy of the second edition of Copernicus's *De Revolutionibus* of 1566, which he later brought back to Aberdeen as part of his library. The Rich Intellectual Culture in Breslau, where old trading routes from East Central Europe, Italy and northern Germany intersected, also provided the links later developed through Wittich with Brahe in Denmark. When the plague threatened Breslau, Liddel turned to one of Germany's oldest universities and the Hanseatic city of Rostock, which had recently fallen under the influence of the Protestant Dukes of Mecklenburg. Here from 1584 to 1591, he continued to hone his medical skills. Liddel also found several new mentors. Johannes Caselius, a literary scholar and lawyer, transferred to Helmstedt in 1589 who had a hand in Liddel's appointment to the Academia Julia there in 1591, and David Petraeus, a disciple of Melanchthon. Liddel was particularly interested in neutralising attempt to reconcile the chronology of the biblical world ages with calendar computation. Most important for his progress in medical studies was the Flemish physician Henry Brucaeus, who directly arranged Liddel's invitation by Teko prior to the observatory of Uraniborg on the island of Hven. It was also in Rostock that Liddel first became aware of the works of the anti Aristotelian philosopher Petrus Ramus, who as a Protestant had perished in the massacres of Saint Bartholomew in 1572. In 1591, Duncan, Liddel's peregrinations temporarily ended with his appointment to the chair of lower mathematics at the University of Helmstedt. Two years later, he advanced to the chair of Higher Mathematics and in 1601 took over the chair of medicine. The Academia Julia was a foundation of 1576 by Duke Julius of Braunschweig-Luneburg, a year before Liddel's appointment. It had been taken over by Julius's son Henrich Julius. There is also a larger historical context to Liddel's Helmstedt career, while James, the sixth of Scotland married Anne of Denmark, her sister Elizabeth became the wife of Duke Heinrich Julius. As Liddel's patron and benefactor in the Academia Julia, Henrich Julius exercised his detailed governance of the institution down to the very details of academic appointments, decisions over library acquisitions, the creation of a medicinal herb garden and a hospital. The statutes of the University of Rostock served as a direct model for Helmstedt and several of its scholars, such as Chytraeus and Caselius, who had promoted Liddel's progress in Rostock, joined the university in Helmstedt, where Liddel completed his doctorate in medicine in 1596 and became dean of the philosophical faculty in the same year. Liddel's medical career and teaching was shaped by the intense row that had broken out in academia between Galenic Medicine and Paracelsian ideas, which raged at the time in universities across Europe and also reached Helmstedt. In the debate was the first holder of the medical chair in the Academia Julia, Jakob Horst, Liddel took a strictly Galenic perspective. The debate went beyond medical opinions and reflected a fundamental divide in epistemological positions. Paracelsian sympathy for neo-platonic and mystic tendencies under the influence of the body of the ancient writings attributed to Hermes Trismegistus, magic and astrology dominated Jakob Horst's publication in 1595. In it, he presented the story of a child allegedly born with a golden tooth at the moment of an unusual planetary constellation. He had to publish it in Leipzig because Helmstedt was renowned for its antipiracy stance, even before submitting his doctoral thesis, Liddel started a quarrel with Horst disputing that such a thing could have happened and strongly supported the attempt by fellow scholars to eliminate supernatural interpretations from physical phenomena. Liddel's argument follows Aristotelian as well as Melanchthon methods to assert valid medical causes and effects on the basis of a legitimate epistemology reason and experience, which both allowed to know through differences an approach borrowed from mathematics due to the uniformity of nature if a tooth was boney by nature, he argued, it was impossible that it could have grown from gold. While this approach is very different from David Hume's attack on miracles almost 200 years later and does not involve the

idea of probability, Liddel asserts a strong link between a natural *causa efficiens* and a necessarily natural - not supernatural - *causa finalis*. He stresses the role of empiricism and the separation of natural phenomena from supernatural miracles, pointing the way towards a rational approach to medicine and knowledge that the Enlightenment would have well understood. The duty of the physician and every scholar, therefore, must be to use a demonstrable method based on truth, reality and experience so that an honest and ethical society could be fostered and maintained. In Liddel's view, Paracel Zionism threatened this endeavour, the university authorities, including Dukane Regulus, agreed with Liddel and rewarded him not only with a medical chair, but also with the position of dean of the philosophical faculty and Pro-Rector of the University in 1604, Liddel had reached high office and earned, well, practising as a successful physician in the city of Helmstedt, mostly from his own accommodation in the city with fellow scholars Casillas and Kornelius Martini, who ran a boarding house for visiting students. He even supported a petition to the Duke to be able to run a brewery from his house, just as Luther Melanchthon had established beer brewing at their homes and as the famous astronomer [00:18:31] Jan Hevelius [0.0s] would do to finance the building of his observatory in Dantzic in the 17th century, without a family of his own, Liddel had the means to accumulate a valuable library, and he attracted a good number of fellow Scotsman, mentoring them during the academic peregrination to Helmstedt and through his networks at other Protestant universities in northern Germany. It is a little surprising, then, that jealousy against him grew fuelled by the narrowing theological doctrines emanating against the Calvinist Scotsman from amongst the Lutheran followers of Wittenburg, especially when Phillipists lost ground after melungeons demise. The first generation after the Reformation that had argued for an open and irenicist dialogue between the denominations was replaced by a more combative Lutheran orthodoxy as the age of confessionalization was well underway. During the so-called Hofman quarrel, which involved the Helmstedt theologian Daniel Hoffman, who stated that philosophers were the fathers of all heresies, Liddel defended the equal footing that the discipline of philosophy had received from the time of the university's foundation as a part of the higher faculties. Jonathan Regier has stressed the exceptionalism of Helmstedt that as an institution that perfectly followed Melanchthon's humanist spirit. Yet this stance triggered a permanent rivalry with the more conservative theologians who feared for the hegemony of their discipline. Hoffman's attack on philosophy was an expression of that battle, which continued to play out in German Protestant universities until Christian Thomasius, professor of *ius publicum* in Leipzig in 1690, sought refuge with the reformed elector of Brandenburg, who in his newly founded University of Halle, gave Thomasius the freedom to lecture in German rather than in Latin, and to advocate a separation of philosophy from the domination by theology. In his own world Hoffman advanced a similar argument for separation but attributed a much lower place in the ranking of disciplines to philosophy. In contrast to Melanchthon's teaching, that natural philosophy mirrored the greatness of God's creation. Hoffman called philosophy a carnal science that should not intrude in theology, where its logic might only cause confusion and heresy. In a massive counterattack on Hoffman, the philosophical faculty, led by Casaly's Martini and Liddel, denounced Hoffman as impious and denying universal truths. While every truth had to be demonstrated by its own disciplinary methodology, however, according to Liddel disciplines, could borrow certain truths from each other without turning them into falsehoods. Truth based on common principles of reason. In other words, is stable and ethical and linked to divine power for Liddel, the best means to civilise mankind was through education, following the Phillipists curriculum, including natural philosophy, which inclined men to follow a pious and virtuous life. Only the liberal disciplines could therefore prevent a decline into barbarism and savagery. The best approach to truth and the most civilising discipline for The Scotsman was mathematics. With his 1591 initiation lecture

oration on the excellency of mathematics, Liddel reserved the highest praise for his favourite discipline, its antiquity, nobility and usefulness. We celebrate Liddel today, not because it was a giant in medical science or mathematics or a world famous astronomer, in fact, as Duncan Coburn reminded us, the National Portrait Gallery in Edinburgh on its mosaic of remembrance of important figures of Scottish history, features John Napier and George Buchanan as representatives of 16th century Scots scholarship. Napier, however, could not have constructed his logarithm without the scholarly networks that lead back to Paul Wittich in Breslau, and Buchanan stubbornly stuck to Ptolemy's image of the universe in open mockery of Copernican theories by including Duncan Liddel the gallery could have set a pointer that the scientific revolution was in the making in Scotland, because scholars such as Liddel acted as important transmitters in a humanist network of knowledge between Scotland and Northern Europe. Why did Liddel return to Aberdeen after his long career in Germany, disillusioned about the victory of an increasingly doctrinaire Lutheran confession and deeply hurt personally that Melanchthon's approach to science and ethical principles no longer found fertile ground in Helmstedt, that Liddel return to Aberdeen in 1607, accompanied by his library, which he donated to the new foundation of Marischal College. His donation also included funding for a chair mathematics and six bursaries, as well as an annual prize for an essay in Latin or Greek. The most visible memorials for Liddel are the obelisk, which still stands in a field near Pitmeddan where Liddel settled after his return to Scotland and the brass plaque in the West Church of St. Nicholas dedicated to him by the city of Aberdeen. Liddel died only six years after his return, leaving little evidence of his activities during his last period of his life. The poet David Wedderburn, who died in 1646, who was master of Aberdeen Grammar School, dedicated a poem under the title Apotheosis to Duncan Liddel in his *Moossa Latina* above the lenses in which he expresses the bounty of Liddel which the university gained and who from a humble origin will reach the heavens like Aurora rising from the wave. Whilst the Academia Julia in Helmstedt closed its mind to debate between the disciplines and pushed out its Philippists Marischal College, opened its arms to Liddel curriculum reforms. Giordano Bruno, on his visit to the Academia Julia in 1589, had still praised Helmstedt's resistance to Gnesio-Lutheran confession. But the tide was turning in the early years of the 17th century, which increasingly saw the German principalities sliding towards religious and constitutional conflict and ultimately the Thirty Years War. Liddel's own ideas that the British Isles had been thrown back by the Norman invasion and were still on the road to recovery, motivated him to help this endeavour as a patriotic act to his home city and its people. Despite his contribution to mathematics in Aberdeen, Liddel's *Opus Magnum* was his *Ars Medica - The Art of Medicine*, which first appeared in 1607 and appeared in several editions after his death. In a fitting introduction, the literary scholar and rhetorician Caselius presents this work to the world. It is time that Liddel's library, dispersed amongst the special collection with its rich marginalia and annotations, should be studied again. Modern polymaths are required.

[00:27:04] This podcast is brought to you by the University of Aberdeen.