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The Beginnings of Toruń Logic

Abstract. At the Copernicus University of Toruń, which was founded in 1945 under the most difficult conditions, there were two logic centers from the very beginning, each headed by a prominent representative of the Lvov-Warsaw School. Jaśkowski's work on formal logic proved to be tradition-defining for the emergence of today's international center of logical research in Toruń. The article examines the first stages of this process.

Keywords: Polish school of paraconsistent logic; discussive conjunction; ex falso quodlibet

Introduction

The rich trading town Toruń, a member of the Hanseatic League and at times a diocesan town, did not have its own high educational establishment for a long time. There had been a municipal school in the newly founded city since 1245. In the course of the Counter-Reformation, a Jesuit college was established there in 1593, which began teaching in 1605, but without lasting success. The city's most famous son had left Toruń long before he became world-famous for his scientific achievements.

Attempts to found a university in Toruń together with other Hanseatic towns in Pomerania were unsuccessful. In neighbouring Chełmno, the plan to establish a university according to Bolognese law failed, despite papal permission from 1386. (It would have been the oldest university north of Cambridge.) As a result of this failure, there were arguments about possible alternatives on the lower reaches of the Vistula (Wisła): in the 15th century, the tendency was towards Marienburg (Malbork), in the 16th century towards Elbing (Elbląg). In 1595, the powerful Hanseatic cities of Danzig/Gdańsk, Elbing and Toruń agreed on the

latter location. After that, however, nothing more happened in 350 years. The entire Pomeranian region between Berlin, Greifswald (Gryfino) and Königsberg (Królewiec) remained without its own university.

There had been a protestant academic grammar school in Toruń since March 8, 1568. This was the pride of the city, one of the best schools in Europe. Graduates of this secondary school had the right to begin their university studies in the third year, i.e., without completing the usual university foundation courses of the trivium and quadrivium. After the re-establishment of the Polish state, Roman Ingarden also taught logic and mathematics at the academic grammar school from 1921–1925.¹ Intellectual life flourished in the circle of the Filomats, a loose group of intellectuals and artists—despite the increasingly difficult economic, and subsequently also political, conditions that soon followed. Sporadic initiatives to found a university had no real prospect of success. There was a branch of the university in Poznań, a regional museum and comparatively very good libraries.

Toruń was undoubtedly the centre of intellectual life in the region. One of the first three scientific societies in Poland was founded in Toruń as early as 1875: Toruń Scientific Society (in Polish: Towarzystwo Naukowe w Toruniu; TNT). In public perception, it was the city of Copernicus, a pearl of Gothic architecture with an impressive history. But it was also famous for gingerbread and fortifications. The frequent border location throughout history had brought a lot of military to the city, which also shaped life in Toruń. People spoke, only half-jokingly, of Toruń as the “fortified pub” (see [Kortas, 2010](#)).

After the Allied victory in the Second World War, the time was finally ripe for the founding of a university. The problem became all the more pressing as the political changes left homeless two important universities in eastern Poland: Stefan Batory University in Wilna and Jan Kazimierz University in Lwów. In the turmoil of the post-war period, a proactive group of local politicians succeeded in getting Toruń accepted as a location for the foundation of a university and for the admission of university members who had become displaced in the east.

The Nicolaus Copernicus University (NCU; in Polish: Uniwersytet Mikołaja Kopernika; UMK) was officially founded on August 24, 1945,

¹ In Toruń he met the famous painter Stanisław Witkiewicz. It was a fruitful time for Ingarden: 19 publications were produced during this period and Witkiewicz painted several portraits of him.

under conditions that are difficult to imagine today. There was no material basis for the work of a university. The professors had to take care on their own initiative of things that would have been taken for granted under normal conditions: housing, workrooms, food supplies, health care. When emissaries from the British Council visited Toruń, they classified the project as not worthy of financial support: the experts thought the prospects of success were all too slim. Nevertheless, the enthusiasm of all the employees was enormous and the assistance from the local state administration was given to the best of their ability. There was a strong desire to finally stop the centuries-long attempts at Germanization after the liberation of these areas from German fascism. The establishment of a university and the training of a new Polish intelligentsia cemented Polish statehood in the intellectual and cultural sphere. At the time, Toruń was a quiet and beautifully situated provincial town that had not been destroyed by the war, without the hustle and bustle of an industrial and commercial centre. This circumstance would later make it difficult to recruit professors, as well as to keep newly habilitated professors in the city.

It was a particular challenge to bring together the staff arriving in Toruń from the former Stefan Batory University in Wilna and, from November 1945, those from Jan Kazimir University in Lwów, as well as academics from other pre-war universities arriving on their own initiative or invited, to form a unified teaching staff. The Wilna scholars were the first to arrive and felt like hosts, so to speak. The first rector of the university was Ludwik Kolankowski from Lwów, who naturally brought his own domestic power with him. All of this was not without friction (see [Czeżowski, 1995](#), p. 39), but this took a back seat to the huge external difficulties and to the common will to lead the young university to success. The discipline and enthusiasm of the student body is also worth mentioning. The rector highlights in his memoirs that there was not a single disciplinary procedure in the first years of the university (see [Kolankowski, 1957](#), 14 ff.).

Tadeusz Czeżowski as a representative of philosophical logic

Among the founding members of the Nicolaus Copernicus University was Tadeusz Hipolit Czeżowski [26.07.1889 Vienna – 28.02.1981 Toruń], a former professor at Wilna University. Czeżowski, a student of Kazimierz

Twardowski and Jan Łukasiewicz and a prototypical representative of the Lwów-Warsaw School in terms of his scientific orientation (see [Woleński, 2009](#)), had already gained a wealth of experience in the organization of science as Vice-Rector of Wilna University and previously as a senior ministerial official in Lwów under his superior there, Jan Łukasiewicz. During the German occupation, after the closure of Wilna University, as a teacher of mathematics and physics at a Lithuanian grammar school for adult education, he held almost 150 secret courses for students of the former university and took examinations. The carefully preserved certificates enabled many participants to continue their studies after the end of the war. Together with his wife, he hid 8 Jewish fellow citizens in his apartment at the risk of his own life. Czeżowski, his wife and his daughter were honoured with the “Righteous Among the Nations” medal.

After his arrival in Toruń in July 1945, Czeżowski immediately took part in the preparations for the founding of the university. As early as August 23, he was one of seven colleagues at the first Senate meeting. He took over the management of the Faculty of Humanities on October 1, 1945, held the “Philosophy 1” chair himself, which was responsible for the basics, principles and introduction to philosophy, and prepared everything necessary for the work of the “Philosophy 2” chair, which focused on specific questions of philosophy. He recruited his friend Henryk Elzenberg as full professor for this. In addition, Czeżowski initially also took over the chair of psychology, because the colleague originally intended for this position did not take up his post, but preferred the University of Wrocław without further ado.² The close links between logic and psychology at NCU therefore go back a long way. At the time, however, psychology was more application-oriented with a focus on developmental psychology, occupational psychology and clinical psychology.

In the close management circle around the rector of the university, Czeżowski was head of the control commission and also responsible for student affairs as the rector’s authorized representative. An unspectacular but important task, as he writes in his memoirs (see [Czeżowski, 1995](#), p. 35). This seems to be typical of his personality: he always set himself the highest standards when it came to fulfilling his duties. He coped with the abundance of his obligations through an almost unheard-of discipline

² After the Department of Psychology was reactivated on October 1, 1959, Czeżowski once again took over its academic supervision.

and organization in everyday academic life. His chair was considered to be proverbially well organized. There were rosters for the staff, and all resolutions and important decisions were recorded in special notebooks.

On November 24, 1945, Czeżowski opened the teaching activities of the new university with a very first academic lecture in the Collegium Minus. He subsequently took on numerous teaching duties and was impressed by his students' willingness to learn and their intelligence. These included Leon Gumański, Franciszek Indian and Bogusław Wolniewicz. The latter would later be Czeżowski's assistant from 1950–1953, while the former would become his successor as head of the chair.

The technical difficulties in publishing the research results of university members were a major obstacle to the necessary personnel development. A wealthy citizen of the city soon founded a university publishing house, in which Czeżowski instantly published his work produced during the war. By the mid-1950s, 42 of his works had appeared in this publishing house; Elzenberg published 11.

At the young university, Czeżowski energetically campaigned for good conditions for academic life. Under his leadership and organization, the aforementioned Toruń Scientific Society in particular developed into a place of lively intellectual exchange between researchers after the university was founded. The society was organized in the manner of a scientific academy in three classes: the Historical-Legal-Social science class, the Philological-Philosophical class and the Mathematical-Scientific class. The research work presented at the meetings was published in three separate series. Czeżowski was Chairman of the Philological-Philosophical Class for a long time and also General Secretary of the TNT Board.

In addition to his work at TNT, Czeżowski was also actively involved as the chairperson of the Toruń Philosophical Society (TTF), which he had founded. The publication organ of the TTF was the long-established journal *Ruch Filozoficzny*, which Czeżowski revived in 1948. Initially, only two volumes were published before its continuation in 1958 under Gumański, who served as secretary and later deputy editor-in-chief. After the transformation of the Toruń Philosophical Society into a section of the Polish Society for Philosophy in 1955, its leadership remained with Czeżowski. Simultaneously, as Tadeusz Kotarbiński's deputy, he assumed the leadership of the Polish Society as a whole. Like many other members of the university, Czeżowski delivered public lectures and even held a series of broadcasts on Polish radio.

In 1951, Czeżowski became a member of the Philosophy Section of the Polish Academy of Sciences (PAN) and led the “Methodology” group within the “History of Logic” division at the Institute of Philosophy and Sociology of PAN (IFiS PAN). During this time, there were significant restructuring efforts at the Faculty of Humanities at the University of Toruń to make room for Marxist-Leninist philosophy and political economy. The “Philosophy 1” department was restructured into a purely research-focused unit without own students, renamed the “Collective Chair of Logic” [zespolowa katedra logiki], and the staff from “Philosophy 2” were transferred to Logic. Department head Henryk Elzenberg was forced into indefinite scientific leave with continued salary payments. With the permission of the relevant Minister Rapacki, Czeżowski continued to give introductory lectures on logic as a service to all other faculties. Specialized lectures and advanced courses in logic were discontinued. There was a lack of highly capable students ready for serious scholarly work. Notably, work on the philosophical dictionary project, which had begun in Wilna, made no progress (the lack of support from the Polish Academy of Sciences also had a negative impact). Beginning in 1957, a small number of philosophy students were again enrolled, never exceeding 20 in total. Elzenberg, who had held *Privatissimae* in his home for select participants, was called back to the university. By then, he was in poor health and carried out his duties with little enthusiasm until his retirement in 1960. Czeżowski himself retired in 1960, and no further philosophy students were enrolled (see [Jadczyk, 1995](#)).

Czeżowski remained devoted to his former chair, supervising students and supporting young colleagues long after his retirement. His office was maintained with great respect. The chair, temporarily led by Tadeusz Szczurkiewicz, appeared to be well-staffed at this time. In addition to lecturer Gumański, there were two adjuncts (Wacław Kubik and Henryk Moese), and two senior assistants (Stanisław Soldenhoff and Janusz Skarbek). It should be noted, however, that the logic department effectively housed the entire philosophy staff at NCU. Moreover, the work of TNT and the newly revived journal *Ruch Filozoficzny* were organized from this department. From a scientific perspective, the work was successful: Gumański received his PhD in 1960, followed by Moese and Sławomir Rogowski in 1961, Wolniewicz in 1962, and Kubik in 1964.³

³ In 1964, Gumański completed his habilitation, and in 1978, he was appointed Associate Professor. In 1966, he became Chair of Logic, which chair later became the

By the late 1950s, Czeżowski, alongside Kazimierz Pasenkiewicz, was instrumental in the creation and organization of the Kraków Conferences on the History of Logic, initially held biannually and later annually, a role he continued until the mid-1970s (see [Gumański, 1989](#)).

His scientific and organizational contributions were recognized in 1979 with the conferral of an honorary doctorate by the University of Toruń.⁴ On this occasion, as well as on other occasions, he transferred his extensive library to the university and, starting in 1971, entrusted the university archive with his meticulously organized materials on scientific and educational topics, as well as documents related to organizational and administrative work at his universities and the invaluable correspondence he had accumulated over decades.

Stanisław Jaśkowski and mathematical logic

Since the founding of the university, there had been a second tradition in Toruń's logic, originating from mathematical logic. The development of mathematics at the young university was initially entrusted to Juliusz Rudnicki within the Faculty of Mathematics and Natural Sciences.⁵ Following the model of the University of Wilna, three mathematical chairs were to be established. However, Rudnicki's health, which had been severely damaged during the war years, prevented him from enduring the demands of the position for long. By the end of 1945, he fell seriously ill and was unable to recover until his death in 1947. Therefore, it was fortunate for NCU that the recently habilitated mathematical logician Stanisław Jaśkowski [22.04.1906 Warsaw – 16.11.1965 Warsaw] from Łódź could be recruited.⁶ Due to Rudnicki's frequent incapacity

Logic Division within the Institute for Social Sciences, established in 1976. Research in the division focused on deontic logic, applications of logic in jurisprudence, and the history of logic. In 1984, the division was reestablished as an independent Chair of Logic, separating from the institute. These events fall outside the temporal scope of my present contribution; I will address them elsewhere.

⁴ A corresponding initiative was halted in 1977 due to the intervention of the responsible minister.

⁵ The University of Toruń was designed following the model of the home universities of the academic staff working there. In addition to the Faculty of Humanities and the Faculty of Mathematics and Natural Sciences, there was also a Faculty of Law. However, an additional Faculty of Fine Arts was not initially established.

⁶ At the time, the Vice-Rector of the University of Łódź, Ludwik Kolankowski, was appointed as the first Rector of the newly founded University of Toruń. He

to fulfill his teaching commitments and responsibilities in academic self-governance, Jaśkowski, as the only professor of mathematics at the university in the 1945/49 academic years, had to take on urgent duties that had been left by his colleague. Specifically, he had to immerse himself in new areas of mathematics without any preparation time. As a result, his workload became overwhelming.⁷ Initially, he only received support from Aleksander Śniatycki⁸ [25.02.1911 – 1997], who had been hired on October 4, 1945, as the first assistant at NCU.⁹ After Rudnicki's death on February 26, 1948, Jaśkowski was assisted in his teaching duties by astronomer Wilhelmina Iwanowska, a former student of Rudnicki, and Stanisław Turski from the Gdańsk University of Technology. The situation, which had constantly hovered over the possibility of closing the mathematics program at the university, did not improve until 1949, when Leon Jeśmanowicz was appointed as a candidate professor. He took over the chair "Mathematics II" in the 1948/49 academic year. It is obvious that his already fragile health suffered from the deprivations of the war and post-war period and from these professional challenges. Jaśkowski worked beyond his strength.

From 1950, Jaśkowski also became a collaborator at the Mathematical Institute of the Polish Academy of Sciences (IM PAN). In the same year, the first students trained exclusively in Toruń were able to take their final exams. (All previous graduates had been pre-war students.) In 1951, the so-called study discipline was introduced: attending classes became mandatory, and exams had to be taken at fixed times. This led to dissatisfaction not only among the mostly working students but also within the faculty, who lamented such intrusions on academic freedom, which also threatened to result in a loss of student independence and

successfully persuaded Jaśkowski to take on the Chair of Mathematical Logic in Toruń. The habilitation colloquium took place on October 1, 1945, and his appointment as Associate Professor followed on July 24, 1946.

⁷ According to the NCU course catalogue from those years, Jaśkowski delivered up to 12 hours of lectures per week, in addition to four hours of exercises.

⁸ Aleksander Śniatycki (Ciopa) had been a senior assistant at the Mathematical Seminar since 1945 and was promoted to adjunct in 1953. To save his life under German occupation, Aleksander Ciopa faked his own death in 1943 and took the name Aleksander Śniatycki. From 1948, he bore this name with legal certification (comp. Klemp-Dyczek, 2016, p. 17f).

⁹ Given the dramatic supply shortages at the time, it was not insignificant that Śniatycki owned a dairy cow, which grazed in the city park opposite the shared residence of Jaśkowski and Śniatycki.

responsibility.¹⁰ Jaśkowski, in particular, ridiculed the directive spreading from the 1st Congress of Polish Science, which called for research work to be planned in advance. He believed that the results of scientific work could not be measured by the number of publications or pages printed.

Jaśkowski soon took on important roles in academic self-governance beyond the Mathematical Seminar. On October 1, 1951, the existing Faculty of Mathematics and Natural Sciences was divided into two new academic units: Mathematics-Physics-Chemistry and Biology and Earth Sciences. In 1953, the chairs Mathematics I to III were merged into a collective chair. Jaśkowski assumed the leadership, which he held until his death in 1965. Since the Toruń mathematicians had already been working together in the same building under the name “Mathematical Seminar,” this restructuring of the mathematics department did not bring about significant change. However, the reorganization of the faculty increased the need for executive personnel. Jaśkowski was appointed vice-dean in the 1951/52 academic year and dean of the Faculty of Mathematics, Physics, and Chemistry in 1952/53 (his trusted colleague Leon Jeśmanowicz became vice-dean). At that time, this was by no means a matter of course, as Jaśkowski, being of noble origin, was considered to have the “wrong” social class affiliation. Soon, there were attacks from the university’s party organization against him: “Dean Jaśkowski, as a former landowner, is neither up to the task in terms of his organizational abilities nor in his influence on the youth”.¹¹

When the decision was made regarding which university staff members would receive the prestigious medal for the 10th anniversary of the Polish People’s Republic, Czeżowski was accepted only after prolonged debate, and Jaśkowski was not considered at all. The recently appointed Jerzy Łoś from Wrocław did not yet appear to be objectionable and received the award without any objections.¹²

There are no records of serious difficulties, which were not uncommon

¹⁰ One can hardly imagine how the colleagues of that time would have reacted to the present-day imposition of having their teaching quality assessed by participants (including non-participants) and then self-critically discussing the evaluation with the students.

¹¹ From the minutes of the Executive Committee of the Polish United Workers’ Party (PZPR) at NCU, dated March 26, 1953 (see [Tomczak, 1995](#), p. 318).

¹² From the minutes of the Executive Committee of the PZPR at NCU, dated December 30, 1954 (see [Tomczak, 1995](#), pp. 327–330).

during that time, in Jaśkowski's case. He became full professor in 1957. His reputation as a mathematician uninvolved in ideological debates may have worked to his advantage. In addition to Jaśkowski's unquestionable scientific authority and his conscientious administration, it is likely that the traditional image of a noble landowner as a guardian of the cultural and intellectual Polish values still resonated at the time. Anyway, despite some concerns related to the contemporary political climate, Jaśkowski was elected vice-rector for science at NCU in 1956 and later rector of the university from 1959 to 1962. He declined to run for a further term due to health reasons, at the strong urging of his colleagues (see [Jeśmanowicz, 1989](#)).

Despite his enormous teaching workload and the responsibilities associated with his academic positions, Jaśkowski found time for scientific work, which will be discussed further in the following sections. He was a co-founder and the first president of the Toruń Mathematical Society, a member of the regional People's Representation, and he played a decisive and successful role in the preparation and implementation of a reform of mathematics education in Polish schools.

Jaśkowski recognized the potential of electronic computing for scientific research early on. Thanks to his initiative, a research consortium from the university and ten Pomeranian industrial enterprises succeeded in installing one of the first Polish mainframe computers, an Odra 1003, at the university in 1965. In 1964, he led a seminar on multivalued logic for his assistants and graduate students, in which the foundations for the use of mainframe computers in scientific research were taught. Two of the participants subsequently worked at the university's computing centre as operators of such machines. Jaśkowski's primary interest in this context was in machine theorem proving. Nearly 40 years after his groundbreaking first result as a mathematical logician — the calculus of natural deduction presented in Łukasiewicz's seminar in 1926 — his scientific journey came full circle: from modelling the behaviour of human mathematicians to the methodologies of artificial intelligences. All this combines into a consistent picture of applied logic which looks very modern. Even if the details are only sketched in his oeuvre, his work clearly points to an all-embracing study of practical reasoning, laying the ground for cognitive science. If he were able to realize his vision, Jaśkowski would have been among the first cognitive scientists.

Jaśkowski, who had struggled with health issues throughout his life, passed away after a prolonged illness on November 11, 1965, in Warsaw.

Regrettably, the handling of the material remnants of his academic career was far more careless than in the case of Czeżowski. Initially, the workspace of the master at the Mathematical Institute was preserved with honor. In addition to his desk and chair, this mainly involved a large, beautiful cabinet full of annotated books, manuscripts, and handwritten or typewritten notes. All of this was carefully reassembled when the Mathematical Institute moved from Grudziądzka street to Chopina street, at the new location, beneath a portrait of Stanisław Jaśkowski. Later, the scientific inheritance was lost under unclear circumstances.¹³ Unfortunately, the author of these lines was also unable to obtain any further information from Jaśkowski's descendants.

Jaśkowski's scientific work at the beginning of his Toruń years

Jaśkowski had already been working on his habilitation thesis since 1937. Lech Dubikajtis mentions research on modal functions and calculi with dependent variables. By the time of the German invasion of Poland, these studies had already reached an advanced stage. During the war years, he had only very limited opportunities for academic work, not least due to the lack of interaction with colleagues and the absence of access to scientific libraries. As the administrator of his estate in Wólka and, from 1943, as the administrator of his father-in-law's nearby estate in Chociw, he attempted to continue his research. However, the specific topics he worked on can only be speculated upon. Nearly all of his manuscripts were destroyed during the Warsaw Uprising, when German troops sought to annihilate the Polish capital. After the war, he was able to reconstruct only some of his previous work (see [Dubikajtis, 1975](#), p. 110). This seems only natural. In the post-war turmoil, people certainly did not have the leisure to devote themselves to writing down lost logical treatises at

¹³ As a doctoral student in the early 1980s, I was granted permission to work at doc. Jerzy Kotas's desk during his absence and to browse through the treasures of his cabinet. I did so in a rather unsystematic manner, without any deep interest in the history of science at the time.

In 2022, I found the cabinet completely empty in the hallway of the Mathematical Institute. Inquiries at the institute's library and among senior colleagues regarding the whereabouts of the materials were fruitless. Documents that may have remained in Jerzy Kotas's personal archive were ultimately discarded by his family after his passing. Despite multiple inquiries from Kotas's daughter-in-law, the Mathematical Institute showed no interest in preserving them.

length. Even if Jaśkowski found comparatively comfortable conditions in Toruń, the abundance of his teaching duties and of organisational obligations in building up the newly founded university added to the normal challenges of post-war daily life.¹⁴

The habilitation colloquium took place, as mentioned, on October 1, 1945, at the Jagiellonian University. The topic was a new definition of rational numbers, and the results were published in 1948. It seems very likely that Jaśkowski drew upon research findings from earlier years. However, whether these were the same studies he had begun in 1937 as his habilitation project remains unclear. His manuscripts had perished in his Warsaw apartment during the war. Given the catastrophic staffing situation in Polish academia immediately after the war and the urgent need of appointing specialists with the required formal qualifications for the reestablishment of academic education at universities, one can easily imagine the enormous time pressure on young scholars with doctoral degrees to complete their habilitation.

Notably, Jaśkowski's brief paper (1948b) formed the foundation for two further works that later became famous and were crucial for the emerging tradition of Toruń logic:

In the paper “Sur les variables propositionnelles dépendantes” [1948b], the concept of homogeneous expressions in predicate calculus was defined. This concept allows for a straightforward interpretation of sentences in predicate calculus and, within the framework of bivalent logic, assigns interpretations to certain propositional functions that would normally require multi-valued logic or meta-system interpretations. In the paper “On the modal and causal functions in symbolic logic” [1951], such an interpretation was provided for modal and causal functions; in the works “Rachunek zdań dla systemów dedukcyjnych sprzecznych” [1948d] and “O koniunkcji dyskusyjnej w rachunku zdań dla systemów dedukcyjnych sprzecznych” [1949a¹⁵], for certain functions that allow a propositional calculus to tolerate formal inconsistencies.

(Jaśkowski, 1957, p. 124)

There is substantial evidence suggesting that by the end of the war, not only had Jaśkowski laid the groundwork for his causal logic research, but also for his development of discussive logic. Between 1945 and 1948, few

¹⁴ “Normal challenges” is an euphemism: He had to look after a large group of needy relatives who had come with him to Toruń.

¹⁵ For the English versions of (Jaśkowski, 1948d, 1949a), see (Jaśkowski, 1969, 1999a,b).

professors at the university could afford the luxury of undisturbed conceptual work. For scholars with an extraordinarily high workload, such as Jaśkowski and Czeżowski, such an idea seems almost unthinkable. As soon as the situation in Toruń once again offered opportunities to publish scientific results, Jaśkowski produced six very brief papers within a single year, each presenting a significant result. It is highly plausible that these publications were the concise reconstructions of his pre-war and wartime research that Dubikajtis had mentioned. The young university was eager to showcase the creativity of its professors, a priority that naturally aligned with the personal interests of its faculty members. Wealthy Toruń citizens offered rewards for scientific achievements made at Nicolaus Copernicus University. Consequently, there was little incentive to highlight any potentially older origins of published results.¹⁶

For the emergence of a distinct logical tradition in Toruń, Jaśkowski's classical work on paraconsistent logic "Propositional calculus for inconsistent deductive systems" (1948d; in Polish: "Rachunek zdań dla systemów dedukcyjnych sprzecznych"¹⁷) proved pivotal. This tradition holds the potential to develop into a full-fledged scientific school.¹⁸ Jaśkowski's fundamental research question was to devise a system of propositional calculus that: (1) does not inevitably lead to triviality when applied to inconsistent systems, (2) is sufficiently rich for practical inference, and (3) possesses an intuitive justification. His solution was both clear and elegant: something is a tautology if and only if it is possibly true in S5.¹⁹

Jaśkowski's paper was published in a Polish-edited journal and thus remained largely unnoticed by researchers abroad, particularly behind the Iron Curtain.²⁰ There was no huge demand for printed copies of

¹⁶ One thinks involuntarily of the constellation from *The Glass Bead Game* described by Hermann Hesse: after the brilliant researcher had risen high in the academic hierarchy, and the abundance of obligations had set him limits (and also the creativity of mathematicians, by its very nature, tends to wane quickly), he was happy to be able to refer back to ideas and projects developed in his youth and to replenish them.

¹⁷ English translation as (Jaśkowski, 1969), by Olgierd Wojtasiewicz, and, slightly corrected and annotated by Jerzy Perzanowski and in modern logical notation provided by Andrzej Pietruszczak, as (Jaśkowski, 1999a).

¹⁸ Concerning the criteria for a scientific school, see (Urchs and Wuttich, 2022).

¹⁹ This is what Graham Priest calls the *Jaśkowski move*.

²⁰ The volumes of *Studia Scientiarum Societatis Torunensis* were distributed among libraries in Pomerania. Copies were sent regularly to Warsaw and Wrocław,

his work; many remained available at the publisher even years later. In hindsight, it is fair to say that Jaśkowski was not particularly successful in disseminating his results to the wider scientific community during his lifetime.²¹

Reading the original Polish version, one gains the impression of a hastily compiled exposition. A core logical text is flanked by an introduction that looks “politically slightly adjusted.” Moreover, a few contemporary ideological phrases appear at the end of the paper (these are absent in the French summary). This can be easily explained: Three years after the war, Poland was under the strong influence of Marxist orthodoxy, and Polish intellectuals at universities, as state employees, were required to demonstrate their progressive sentiments.

Thus, the issue is not why Jaśkowski referenced sources suggesting an affinity with Marxist philosophy. Rather, the question is why he chose these specific sources and not others. From a pragmatic perspective, he could have made a more effective selection. In Marxist philosophy, the law of contradiction is central to dialectical materialism. Jaśkowski’s advocacy for the “de-bewitching” of inconsistency could most naturally be interpreted as a conciliatory gesture from a mathematical logician toward dialectical logic. Quotations from Marx, Engels, Lenin, Stalin, and Mao would have been an obvious choice. Yet, he refrained from such explicit references. Jaśkowski’s introduction reads as a perfunctory exercise, seemingly thrown together with just a few randomly selected literature sources to complete the obligatory section.

Looking at the part of the work that follows the introduction, not much counters the contingency that the underlying conception was already developed in the late 1930s, before the German aggression against Poland, or early after. In terms of outward appearance, the famous triple objective of discussive logic is reminiscent of his PhD project. That task — develop a system of natural deduction — set by Łukasiewicz,

but also to Brno in Czech, to the Polish embassy in Moscow, to the branches of the Polish Academy of Science in Paris and Rome, and to the Office for International Exchange of the Polish National Library. The archive of Societatis Torunensis notes individual requests for Jaśkowski’s work from the library of the Catholic University Lublin and from Witold Pogorzelski, Wrocław.

²¹ The fate of Jaśkowski’s work on natural deduction is well-known. After the disastrous delay in publishing that method, he, again, almost buried his work on discussive logic for another 20 years. An English translation was published post mortem in *Studia Logica* 1969 (see [Jaśkowski, 1969](#)).

was Jaśkowski's first important scientific work. He starts his writing about discussive logic in an equally significant manner. Wouldn't the development of an inconsistency-tolerant logic have been a worthy self-imposed habilitation project? Jaśkowski's worked on his habilitation during the war. What was its objective? Most probably it was concerned with dependant sentential variables. The topic was suggested to him by Stanisław Leśniewski. He started working on it before 1934. Dependant sentential variables appear in both his projects on discussive logic and on causal functions in symbolic logic.²²

Before the war, Jaśkowski worked in an environment that conducted cutting-edge logical research on an international level. Undoubtedly, these circles were familiar with Clarence Irving Lewis and Cooper Harold Langford's work on modal logic (New York, 1932). The basic construction of his inconsistency-tolerant system D_2 rests on Lewis–Langfords modal calculus S_5 . It seems much more likely that Jaśkowski studied their *Symbolic Logic* before WW II, rather than after the war in Toruń. In 1948, there was no noteworthy collection of Western editions of logic books at NCU's university library, nor did Jaśkowski save his private book stock over the time of war.²³ In his 1948 publication on discussive logic, he mentions Carnap's 1946 JSL-paper. Even on close reading, I could not discover any significant references to content. I rather suspect that this source was also intended for updating the paper.

There is a further paper from summer 1947, "Logical problems and mathematics" (Jaśkowski, 1947). At its end, Jaśkowski declares that it would be highly interesting to have a non-explosive methodological underpinning for reasoning in foundations of mathematics.²⁴

²² Also Dubikajtis mentions that "modal functions" were at his scientific interest those years. His actual habilitation, swiftly defended at Jagiellonian University in 1945, consisted of a compilation of some results from geometry. His renewed habilitation in 1956 according to Soviet regulations contained conglomerate results from decision theory and differential equations. None of these works corresponds to the image of a budding world-class logician. So the initial project was most likely another one.

²³ Jaśkowski was a member of the university's library commission. Their main occupation was collecting books from all possible sources in Pommerania in order to found a modest origin of the future scientific book collection.

²⁴ The Polish original reads: "Czy unikać sprzeczności za wszelką cenę, choćby wypadło zrezygnować z pełnej syntezy wiedzy? [...] Czy też nie obawiać się sprzeczności a przyjąć taką logikę która stępi ich ostrze i nie pozwoli na wyprowadzenie z nich jawnego fałszu?"

Should one avoid inconsistencies at all costs, even if this means renouncing the complete synthesis of knowledge? [...] Or should one not fear inconsistencies and rely on a logic that takes their sting out and does not allow conclusions to be drawn from what is obviously wrong?

(Jaśkowski, 1947)

Jaśkowski's text appeared in the first-year edition of a scientific journal, where leading Polish authors published high ranked overview articles from philosophy, sciences and humanities. It is hard to imagine that Jaśkowski just lightly formulated his remark in a very serious journal, without having a well thought-out concept up his sleeve. Former remarks on intuitionist logic and Kolmogorov's calculus seem to indicate his acquaintance with explosion-blocking techniques in formal reasoning. So in my opinion, the paper does not exclude the existence of well-developed ideas concerning paraconsistent reasoning. Quite to the contrary.

The main body of Jaśkowski's 1948d paper is most probably part of a larger sample of reconstructions of his manuscripts lost in Second World War. Indeed, in 1945 he informally reports (to the authorities of Toruń University?) that he authored two publications from 1934 and 1935 and possesses the following handwritten manuscripts:

- "O pewnych grupach klas zbiorów i ich zastosowaniu do definicji liczb" (About certain groups of classes of sets and their application to the definition of numbers) [communicated at the meeting on May 21, 1947; published as (Jaśkowski, 1948c, 1975b)];
- "Rozstrzygalność aksjomatyki terminu 'pochodna' Kuratowskiego z zakresie wyrażen bezkwantyfikatorowych" (Decidability of the axiomatics of Kuratowski's notion 'derivation' in the realm of quantifier-free expressions) [not published];
- "Teoria zmiennych zdaniowych zależnych" (Theory of dependant sentential variables) [presented to TNT 21.05.1948, published as (Jaśkowski, 1948b)].
- "Grupa odwracalnych podstawień zdaniowych" (The group of reversible sentence substitutions) [presented to TNT 21.05.1947, published 1948].
- "Pewien układ aksjomatów teorii dedukcji" (An axiom system for deduction theory) [presented to TNT 21.05.1947, published 1948].

Prima facie, nothing of the above hints to modelling discussion by inconsistency-tolerant calculi based on modal logic. And the same is true for another central topic of his research: formal investigations in causal

reasoning. On May 18, 1946 he had the honour to deliver the inaugural address for the newly founded Torunian Philosophical Society: “On a certain interpretation of the concept of cause”. It is inconceivable that he simply wrote down this important speech just a short time before. He obviously had more in the pipeline than he had listed in his compilation above. The solution to the puzzle can be found in Jaśkowski’s previously cited report on his work. It is the third item on the list — the manuscript on dependent propositional variables — which implicitly contains the crucial ideas for the two subsequent studies. Understandably, he did not want to speak publicly about things that were important to him for future research, but which had not yet been sufficiently worked out.

While preparing his now famous paper on D_2 for presentation at the March 19, 1948 meeting of Toruń’s scientific society, his interest in discussive logic, sure enough, rekindled. So less than one year later he announced another lecture to the assembly. You can see that the matter was important to him. In a short note he presented the discussive conjunction \wedge_d . This idea was evidently new, otherwise he would have included it into the previous lecture.²⁵

As a side note, \wedge_d is a philosophically and logically highly interesting operator. It allows to clearly separate the counter-intuitive principle *ex falso quodlibet* from the classical principle *ex contradictione quodlibet* (Urchs, 1995, p. 232 ff.): the latter one is sublated in discussive logic, while the first one is discarded. In a recent paper (Mruczek-Nasieniewska et al., 2019, 2025), the authors give a new, highly interesting interpretation of the content of \wedge_d and develop calculi that go far beyond D_2 in their expressive power.

If the above conjecture of the pre-war origin of D_2 were true, then discussive conjunction \wedge_d would be the first Toruń-born contribution to discussive logic and maybe even Jaśkowski’s first important post-war result in logic. Therefore, \wedge_d may symbolize the outset of the tradition in discussive logic in Toruń.²⁶

²⁵ The result was published as (Jaśkowski, 1949a); English translation (Jaśkowski, 1999b).

²⁶ D_2 was baptized “logika dyskusyjna” by its author, in the sense of “the logic of discussion”, or “the logic of debate”. Since there is no such English word as “discussive”, the phrase was usually translated as “discursive logic” (and this is what all spell-checkers obstinately suggest you). That name, however, doesn’t make too much sense. “Discurve” is “circuitous”, “diffuse”, “tedious” — what clearly misses Jaśkowski’s intention. But even if we insinuate, raping the spelling, an association

The central ideas of Jaśkowski's classic lecture from March 19, 1948, in which he presented his system D_2 of inconsistency-tolerant logic, thus emerged significantly earlier, presumably in parallel with his general considerations on dependent variables. Consequently, the Polish tradition of paraconsistent logic would be older than commonly assumed.

Logical research at NCU in the postwar years

As already stated, in 1945, two prominent representatives of the Lwów-Warsaw School, Czeżowski and Jaśkowski, arrived in Toruń. Given the overall condition of Polish science after the war, this was remarkable.²⁷ A letter from Andrzej Mostowski to Heinrich Scholz in Münster provides insight into the situation of Polish logic immediately after World War II:

The horrors of the war have now been over for two years, and we are trying to rebuild our lives. The state of Polish logic is, as you may know, very lamentable. It is enough to say that it is much easier to list the names of the logicians still active in Poland than to enumerate

with “discourse”, it does not get any better. At least if we treat the notoriously muddy concept “discourse” according to logical tradition. Since the thirteenth century, the word “discourse” is used in scholastic logic to denote the activity of the human mind, reflection, the conclusions reached in (self-)conversation. It is in this sense that it is later conceived by Jeremy Bentham in his *Essay on Logic* at the beginning of the nineteenth century as the transmission of thought by means of signs, as an act of speech. George Boole speaks of a “universe of discourse” in 1854. This is stimulating insofar as it points to the social dimension of language as action. As the name of a logical calculus, however, the word is totally unsuitable because it is unspecific: All logic is discursive logic in this sense. Therefore, the labeling “discursive logic” is either insulting or trivial. We should use the term “discussive logic” as terminus technicus for D_2 and its derivatives, instead. After all, it is only one little step from “r” to “s”. The name is not perfect, though. It suggests closeness to (scientific) discussions. Debates in science are one possible field of application for Jaśkowski's systems. Not the major one, perhaps. That's why I propose to use the name as a *terminus technicus*. Perhaps one day a better name will be found for these systems.

And by the way, since we are talking about technical names: In his second postulate, Jaśkowski demands that the inconsistency of the system should not lead to its overfilling. The Polish adjective “przepełniony” has two possible equivalents in English: “overfilled” and “overfull.” The first term has strange connotations: Who overfilled the system? One should use the second term: Logical calculi are overfull when they have too many theses.

²⁷ Also Roman Ingarden was back to Toruń as a lecturer in philosophy, although not for long. He left in 1947 for Kraków. He is not listed in the official university directory of staff.

our losses. Mr. Ajdukiewicz is in Poznań, Mr. Zawirski in Kraków, Mr. Jaśkowski in Toruń, Mr. Śłupecki in Lublin, and I myself in Warsaw. And that is all of us.²⁸

Considering the devastating impact of the war, particularly on Polish science, the fact that two eminent logicians played a leading role in founding a new university in 1945 was a stroke of luck that inspired great hope for the prosperous development of logic at the institution. One might have expected a fruitful collaboration, perhaps even the (re-)birth of a scientific school.

However, this did not happen. Jaśkowski and Czeżowski were both students of Łukasiewicz, though Jaśkowski was more closely influenced by him. A mathematician by training, Jaśkowski also regarded Leśniewski, Alfred Tarski and Leon Chwistek as his teachers and primarily saw logic as a mathematical tool for problem-solving and the precise formulation of intuitions. Czeżowski, on the other hand, often mentioned how strongly he felt connected to the legacy of his first teacher, Twardowski. His philosophical interests were more pronounced and perhaps deeper than Jaśkowski's. According to Czeżowski's openly stated view, logic was a philosophical discipline—a position that could quickly become problematic at the time. Nevertheless, both scholars came from the same academic tradition and undoubtedly shared compatible views on what constituted good logical research.

It is important to recognize, however, that Czeżowski was not only 17 years older than Jaśkowski but, as a former professor at the University of Wilna and a high-ranking government official, he was far more deeply embedded in academic life. Moreover, at Nicolaus Copernicus University, which saw itself as the reestablishment of the University of Wilna, he could feel completely at home. Czeżowski, although undoubtedly part of the logical wing of the Lwów-Warsaw School, had not distinguished himself as a mathematical logician during his tenure as a professor in Wilna (Woleński, 2009). Nor is there evidence of him working in this field during his time in Toruń.²⁹ He had been a government official in Lwów

²⁸ From a letter by Andrzej Mostowski to Heinrich Scholz, dated February 5, 1947. The letter, originally written in beautiful German, belonged to Erna Scholz, the widow of Heinrich Scholz. It was discovered in the archives of the University of Münster by Peter Schreiber (1995).

²⁹ In his thorough analysis, Maciej Nowicki (2000) situates Czeżowski's contributions to logic in two main areas: the classification of inferences and the structure of scientific theories, as well as contributions to categorical propositions and antinomies.

during the heated dispute of 1929/30 over the failed appointment of Alfred Tarski. His esteemed teacher, Twardowski, was deeply offended by the outcome, and thereafter, there was little contact between mathematicians and philosophers in town. One might speculate that these experiences did not endear Czeżowski to mathematical logic (Woleński, 1999).

Jaśkowski, for his part, had every reason to consider himself an internationally recognized researcher in logic. Immediately after the war, he began publishing the research findings he had developed over the previous years. Despite an immense workload, he consistently found time for further investigations. One could justly say that he was passionate about mathematical logic. Jaśkowski, like Tarski, published works of fundamental philosophical significance as a mathematician and was aware of this significance, just as Tarski was. Despite his excellent results in formal logic and his widely recognized achievements, Jaśkowski's self-assessment as a mathematician was modest.³⁰ Perhaps this uncertainty was one reason why, as a professor of mathematics, he did not emphasize his philosophical interests. However, in the early 1950s, there may have been other, more pressing reasons.

When these two prominent logicians arrived in Toruń after the war, despite the hardships of daily life and the overwhelming memories of the recent horrors of war and German occupation, there was an atmosphere of optimistic new beginnings. The university community embarked on their work with great enthusiasm. They sought to seize the opportunities of a fresh start, inspired by the happiness that they had survived the inferno of World War II. Despite inevitable tensions arising from building an academic community composed of individuals with diverse traditions and experiences, there was a shared determination to make the common project a success. The work of the two logicians (initially, there were indeed only the two professors and Jaśkowski's assigned assistant, Aleksander Ciopa-Śniatycki) was characterized by mutual collegial support. Czeżowski always made the resources of the TNT available to his colleague Jaśkowski: a significant number of Jaśkowski's lectures and

³⁰ Jerzy Kotas once told me he was amazed to see his admired teacher deferring to the mathematical authority of Leon Jeśmanowicz, the professor of analysis. Leon Jeśmanowicz was certainly one of the most likeable personalities at the university, full of wit and with a broad cultural interest. Professionally, he rightly saw himself as an academic teacher and devoted mentor to talented students but less as an active researcher. Jaśkowski's own scientific achievements in the field of mathematics were incomparably more significant.

timely publications can be found in the TNT materials from the university's early years. In turn, Jaśkowski was actively involved alongside Czeżowski in the society's work. As mentioned above, in the Philosophical Society, founded by Czeżowski, Jaśkowski delivered the prestigious opening lecture.

Both had their offices in the same building, and later within walking distance of each other, and they undoubtedly met frequently outside of university committees as well. Nevertheless, no close scientific collaboration, joint seminars, or logical colloquia from this period are known. Perhaps Jaśkowski felt more at ease in the mathematical seminar, which was free of any ideological undertones. Czeżowski's chair had a broader reach in terms of the courses offered at the university. However, given the heavy teaching load Jaśkowski was already facing at the time, he likely gave this little thought.

In 1952, at the behest of the Polish Academy of Sciences, Jerzy Łoś, an associate professor from the University of Wrocław, came to Toruń to establish an algebraic research focus as a branch of the Institute of Mathematics of the Polish Academy of Sciences (IM PAN). He temporarily took over the vacant "Mathematics I" chair, left unoccupied since Rudnicki's death, before all three chairs of the mathematical seminar were soon consolidated into a single unit. Łoś was highly successful in inspiring talented young mathematicians in this field and guiding them along their academic careers.³¹ He managed to attract most young scholars in the mathematical fields toward algebra. In particular, his assistants at the time, Stanisław Balcerzyk and Edward Słasiada, trained a number of outstanding mathematicians as members of the PAN branch and later as professors at NCU. After Łoś left for Warsaw in 1960, they continued to exert a lasting influence on the mathematics institute for many years.

Jaśkowski had opened the first academic year of 1945/46 with a lecture series on group theory, a topic closely related to his research on the decidability of certain mathematical theories. There were, therefore, potential points of connection for scientific collaboration. In 1949, he published a small book on symmetry groups in crystallography. Later, he wrote papers on "Symmetry and Ornament in Nature" and "Math-

³¹ Łoś's views on philosophy were utterly strict. He regarded Wittgenstein's work as bedtime reading and proclaimed that Stanisław Leśniewski had not proved a single serious mathematical theorem after all. One can shrug this off as the loose talk of a mathematician who is too convinced of his own research results. But the thing had consequences, as we will see.

ematics of Ornamentation”. One might assume that this did not align with Łoś’s vision of serious algebraic research. Of course, Jaśkowski had not written these works with such an intention in mind. In any case, there was no scientific collaboration in the field of algebra.

By all accounts, Łoś considered himself a logician at the time. However, this did not lead to joint scientific projects with Jaśkowski and his assistants Dubikajtis, Pieczkowski, and Kotas, who were at the beginning of their academic careers.³² In terms of their research, Jaśkowski and Łoś remained focused on their own projects. Bogusław Wolniewicz mentioned social evenings spent playing cards, where he sat with Łoś and Czeżowski. Jaśkowski was not present — perhaps he did not enjoy card games. (However, these social evenings also left no trace of joint scientific activities.)

To summarize the state of logical research at NCU in the mid-1950s, Jaśkowski’s previously mentioned brief report will be reproduced in full once again:

The work “Trois contributions au calcul des propositions bivalent” [1948a; 1975a] presents a solution to the problem of constructing an axiom system for propositional calculus that is minimal in a certain sense — namely, Jaśkowski’s axioms are the shortest possible at the expense of increasing their number. The papers “Sur les variables propositionnelles dépendantes” [1948b], “Rachunek zdań dla systemów dedukcyjnych sprzecznych” [1948d], “O koniunkcji dyskusyjnej w rachunku zdań dla systemów dedukcyjnych sprzecznych” [1949a], and “On the modal and causal functions in symbolic logic” [1951] are thematically related to the former. In the paper “Sur les variables propositionnelles dépendantes”, the concept of a homogeneous expression in predicate calculus is defined. This concept allows for a straightforward interpretation of sentences in predicate calculus within the framework of bivalent logic, enabling the interpretation of propositional functions that would typically require many-valued logic or a metasystemic interpretation. In “On the modal and causal functions in symbolic logic”, such an interpretation is provided for modal and causal functions, while “Rachunek zdań dla systemów dedukcyjnych sprzecznych” and “O koniunkcji dys-

³² Lech Dubikajtis [6.10.1927–11.11.2014] joined Jaśkowski in 1948 as a student assistant, became an assistant in 1950, and, after completing a doctoral program at the Academy Institute for the Foundations of Mathematics, was promoted to senior assistant in 1953, and to adjunct professor a year later. August Pieczkowski [18.3.1932 – 29.4.2020] and Jerzy Kotas [5.4.1932 – 18.4.2018] started as student assistants in 1954, before becoming assistants to Jaśkowski after completing their studies.

kusyjnej w rachunku zdań dla systemów dedukcyjnych sprzecznych” offer interpretations for certain functions that yield a propositional calculus capable of tolerating formal inconsistencies. Several other works focus on questions of decidability. Specifically, S. Jaśkowski established that the elementary theory of Boolean rings is decidable (“Z badań nad rozstrzygalnością rozszerzonej algebry Boole’a” [1949b]), while proving that elementary topology (“Sur le problème de décision de la topologie et de la théorie des groupes” [1948e]), extended Boolean algebra, and a certain class of existence problems for systems of differential equations (“Example of a class of systems of ordinary differential equations having no decision method for existence problems” [1954]) are undecidable. Jaśkowski’s research on the axiomatization of geometry is reflected in his works “Une modification des définitions fondamentales de la géométrie des corps de A. Tarski” [1949c], “Sur certains axiomes de la géométrie élémentaire” [1949d], and “Sur axiomes de la géométrie des corps” [Sprawozdania VI. Zjazdu Matematyków Polskich]. Additionally, a comprehensive dissertation by Dubikajtis, submitted for publication, presents an axiomatization of Lie sphere geometry. L. Dubikajtis carried out this work as a research fellow at the Institute of Mathematics of the Polish Academy of Sciences. (Jaśkowski, 1957)

In addition to his scientific work, but in close connection with it, Jaśkowski supervised four doctoral theses in mathematics: Lech Dubikajtis, 1954: “Axiomatics of sphere (Lie) geometry”; Aleksander Śniatycki, 1960: “Axiomatics of plane geometry with a half-plane as a primitive term” (see Śniatycki, 1968); August Pieczkowski, 1963: “Axiomatization of a modal system with factor implication”, and Jerzy Kotas, 1964: “Axiomatization of Birkhoff–von Neumann quantum logic” (see Kotas, 1963). All of his doctoral students later secured academic positions. Śniatycki became a reader of mathematics at Gdańsk Pedagogical University, Dubikajtis held a professorship at Silesian University, while Kotas and Pieczkowski became lecturers in logic at NCU. During his time in Toruń, Jaśkowski’s scientific interests focused on three areas: geometry, causal implications and decision problems (cylindrical algebras), and discussive logic. Each of his students specialized in one of these fields. Dubikajtis worked extensively on problems in geometry, Pieczkowski further developed systems of causal operators, while Kotas focused on discussive logic. By this time, Aleksander Śniatycki had already left Toruń for Gdańsk.

When Jaśkowski left Toruń, the field of mathematical logic at NCU was exceptionally well-staffed. At the Institute of Mathematics, founded in 1969, there were eight independent academic staff members (profes-

sors, lecturers, and adjuncts). Three of them — Dubikajtis, Pieczkowski, and Kotas — worked in logic and the foundations of mathematics. Additionally, lecturer Józef Słomiński was also inclined toward foundational problems. The institute's director, Leon Jeśmanowicz, was certainly sympathetic to logical research. And yet, over time, a challenge emerged: among the students of Balcerzyk and Sasiada, a — politely put — reserved attitude toward logic became entrenched. These young colleagues later held leadership positions in the Mathematical Institute for many years, which had consequences for the institutional development of logic within the mathematics faculty in the 1970s. Key first-year courses (which allowed professors to identify and recruit the most talented students into their specializations) were not taught by logicians but rather by Michał Jaegermann, an algebraist — albeit at an exceptionally high academic level. As a result, many of the best first-year students opted for algebra, while other disciplines, including logic, attracted fewer students. This shift was also reflected in the distribution of assistant positions among different departments. Wiesław Dziobiak, one of the most gifted graduates of the Mathematics Institute, was able to remain at the university as an assistant only thanks to the collegial support of the logic division within the Faculty of Humanities. There, he conducted highly successful research in mathematical logic in close collaboration with the logicians at the Mathematical Institute. Professional research into formal logic was conducted in Jerzy Kotas' working group in the early 1970s. At the time, Kotas was the only remaining student of Jaśkowski at the university and conducted the scientific work in the spirit and tradition of his teacher (see, e.g., [Kotas, 1973, 1975](#)) with almost fatherly rigor and kindness.

This, however, already pertains to the third generation of logicians at UMK. Jaśkowski passed away in 1965, and, as mentioned earlier, Czeżowski retired in 1960 and gradually withdrew from university life over the next fifteen years. Even for a relatively young university like NCU, the “beginnings” should be considered concluded after 30 years. A new generation of logicians, students of these two great masters, had stepped forward to continue the history of logic in Toruń. In the mid-1970s, the logic group at the Mathematical Institute was recognized both in Poland and internationally.³³ Later, however, logical research within the Mathematical Institute weakened and eventually disappeared

³³ In this context, it is noteworthy that in 1978, Brazilian logicians Ayda Arruda and Newton da Costa visited the Department of Logic at the Mathematical Institute.

altogether. The centre of gravity for logic at the university shifted to the Faculty of Humanities.

The interim assessment of this first period is mixed: what began with great promise and high expectations ultimately evolved into two largely separate centres — one in philosophical logic and the other in mathematical logic. For various reasons and despite the relatively favourable starting conditions under the given circumstances, neither was able to reach their full potential during that period. But the tradition and themes of the research initiated by Jaśkowski remained alive among Toruń logicians at every stage of their development. And they contributed to Toruń establishing itself as an international centre of modern logic today.

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References

- Czeżowski, T., 1995, “Wspomnienia”, pages 35–41 in A. Tomczak (ed.), *Wspomnienia pracowników UMK*, Toruń: Wydawnictwo UMK.
- Dubikajtis, L., 1975, “The life and work of Stanisław Jaśkowski”, *Studia Logica*, 34(2): 109–116. <https://www.jstor.org/stable/20014751> See also: L. Dubikajtis, “Stanisław Jaśkowski (1906–1965)”, *Ruch Filozoficzny*, 25(3–4), 1967: 187–198.
- Gumański, L., 1989, “Tadeusz Czeżowski”, pages 25–32 in *Toruńscy twórcy nauki i kultury (1945–1985)*, Warszawa: PWN.
- Jadcak, R., 1995, “Toruńskie środowisko filozoficzne w latach 1945–1995”, pages 7–31 in *Filozofia na Uniwersytecie Mikołaja Kopernika*, Toruń: Wydawnictwo UMK.
- Jaśkowski, S., 1929, “Teoria dedukcji oparta na dyrektywach założeniowych”, in *Księga Pamiątkowa Pierwszego Polskiego Zjazdu Matematycznego*, Lwów, 7–10 IX 1927, Kraków: Drukarnia Uniwersytetu Jagiellońskiego.

They were interested in Jaskowski's discussive logic and helped establish academic connections with centres of paraconsistent logic worldwide.

- Jaśkowski, S., 1934, "On the rules of suppositions in formal logic", *Studia Logica*, 1: 5–32. Reprint: pages 232–258 in S. McCall (ed.), *Polish Logic 1920–1939*, Oxford: Oxford University Press, 1967.
- Jaśkowski, S., 1947, "Zagadnienia logiczne a matematyka", *Mysł Współczesna*, 7–8(14–15): 57–70.
- Jaśkowski, S., 1948a, "Trois contributions au calcul des propositions bivalent", *Studia Societatis Scientiarum Torunensis*, Sec. A, Vol. I: 3–15.
- Jaśkowski, S., 1948b, "Sur les variables propositionnelles dependantes", *Studia Societatis Scientiarum Torunensis*, Sec. A, Vol. I, No. 2: 17–21.
- Jaśkowski, S., 1948c, "Sur certains groupes formés de classes d'ensembles et leur application aux definitions des nombres", *Stadia Societntis Scientiarum Torunensis*, Sect. A, Vol. I: 23–35.
- Jaśkowski, S., 1948d, "Rachunek zdań dla systemów dedukcyjnych sprzecznych", *Studia Societatis Scientiarum Torunensis*, Sect. A, Vol. I, No 5: 57–77.
- Jaśkowski, S., 1948e, "Sur le problème de décision de la topologie et de la théorie des groupes", *Coll. Math.*, 1: 176–178.
- Jaśkowski, S., 1949a, "O koniunkcji dyskusyjnej w rachunku zdań dla systemów dedukcyjnych sprzecznych", *Studia Societatis Scientiarum Torunensis*, Sect. A, Vol. I, No 8: 171–172.
- Jaśkowski, S., 1949b, "Z badań nad rozstrzygalnością rozszerzonej algebry Boole'a", *Časopis pro pestovani matematyki a fyziky*, 74: 136–137.
- Jaśkowski, S., 1949c, "Une modification des définitions fondamentales de la géométrie des corps de A. Tarski", *Annales Soc. Math. Pol.*, 21: 298–301.
- Jaśkowski, S., 1949d, "Sur certains axiomes de la géométrie élémentaire", *Annales Soc. Math. Pol.*, 21: 349–350.
- Jaśkowski, S., 1951, "On the modal and causal functions in symbolic logic", *Studia Philosophica*, 4: 71–92.
- Jaśkowski, S., 1954, "Example of a class of systems of ordinary differential equations having no decision method for existence problems", *Bull. Acad. Polon. Sci.*, 2/4: 153–155.
- Jaśkowski, S., 1957, "Katedra Matematyki", pages 122–125 in R. Galon (ed.), *Uniwersytet Mikołaja Kopernika 1945–1955*, Warszawa: PWN.
- Jaśkowski, S., 1969, "Propositional calculus for contadictory deductive systems", *Studia Logica* 24: 143–157. The first English translation of (Jaśkowski, 1948d). DOI: [10.1007/BF02134311](https://doi.org/10.1007/BF02134311)

- Jaśkowski, S., 1975a, “Three contributions to the two-valued propositional calculus” (Communicated at the Meeting on May 21, 1947), *Studia Logica*, 24(2): 121–132. English translation of (Jaśkowski, 1948a). <https://www.jstor.org/stable/20014753>, DOI: 10.1007/BF02314428
- Jaśkowski, S., 1975b, “About certain groups of classes of sets and their application to the definitions of numbers”, *Studia Logica*, 34(2): 133–144. English translation of (Jaśkowski, 1948c). <https://www.jstor.org/stable/20014754>, DOI: 10.1007/BF02123382
- Jaśkowski, S., 1999a, “A propositional calculus for inconsistent deductive systems”, *Logic and Logical Philosophy*, 7: 35–56. A new English translation of (Jaśkowski, 1948d). DOI: 10.12775/LLP.1999.003
- Jaśkowski, S., 1999b, “On the discussive conjunction in the propositional calculus for inconsistent deductive systems”, *Logic and Logical Philosophy*, 7: 57–59. English translation of (Jaśkowski, 1949a). DOI: 10.12775/LLP.1999.004
- Jeśmanowicz, S., 1989, “Stanisław Jaśkowski”, pages 131–135 in *Toruńscy twórcy nauki i kultury (1945–1985)*, Warszawa: PWN.
- Klemp-Dyczek, B., 2016, “Wileńskie korzenie matematyki na Wydziale Matematyczno-Przyrodniczym Uniwersytetu Mikołaja Kopernika w Toruniu”, *Nauczanie Przedmiotów Przyrodniczych. Biuletyn Polskiego Stowarzyszenia Nauczycieli Przedmiotów Przyrodniczych*, 57(1): 14–25.
- Kolankowski, L., 1957, “Wspomnienia”, pages 14–37 in R. Galen (ed.), *Uniwersytet Mikołaja Kopernika 1945–1955*, Warszawa: PWN.
- Kortas, A., 2010, “Befestigte Kneipe”. *Toruńskie lokale gastronomiczne i hotele w XIX i na początku XX wieku w świetle ksiąg adresowych i lokalnej prasy*, Toruń: Wydawnictwo Adam Marszałek.
- Kotas, J., 1963, “Axioms for Birkhoff–v. Neumann quantum logic”, *Bulletin de l'Académie Polonaise des Sciences. Série des sciences mathématiques, astronomiques et physiques*, 11: 629–632.
- Kotas, J., 1973, “The axiomatization of S. Jaśkowski’s discussive system”, *Bulletin of the Section of Logic*, 2(1): 12–15; reedition 2013 (original edition, pp. 12–17). https://www.uni.lodz.pl/fileadmin/Projekty/EXTENDD/BSL/2__1/kotas.pdf
- Kotas, J., 1975, “Discussive sentential calculus of Jaśkowski”, *Studia Logica*, 34(2): 149–168. DOI: 10.1007/BF02123384
- Mruczek-Nasieniewska, K., M. Nasieniewski and A. Pietruszczak, 2019, “A modal extension of Jaśkowski’s discussive logic D_2 ”, *Logic Journal of the IGPL*, 27(4): 451–477. DOI: 10.1093/jigpal/jzz014

- Mruczek-Nasieniewska, K., M. Nasieniewski and A. Pietruszczak, 2025, “Modal discussive logics”, *Journal of Philosophical Logic*, 54(1): 99–142. <https://rdcu.be/d84fk>, DOI: [10.1007/s10992-024-09781-4](https://doi.org/10.1007/s10992-024-09781-4)
- Nowicki, M., 2000, “Tadeusz Czeżowski”, *Edukacja Filozoficzna*, 31: 115–135.
- Schreiber, P., 1995, “O związkach Heinricha Scholza z logikami polskimi”, pages 237–254 in *Materiały i Konferencje*, 16, Szczecin: Uniwersytet Szczeciński.
- Śniatycki, A., 1968, *An Axiomatics of Non-Desarguean Geometry: Based on the Half-Plane as the Primitive Notion*, Dissertationes Mathematicae, vol. 59, Warszawa: PWN.
- Tomczak, A. (ed.), 1995, *Powstanie i pierwsze dziesięć lat Uniwersytetu Mikołaja Kopernika 1945–1956. Wybor źródeł*, Toruń: Wydawnictwo UMK.
- Urchs, M., 1995, “Discursive logic. Towards a logic of rational discours”, *Studia Logica*, 54: 231–249. DOI: [10.1007/BF01063153](https://doi.org/10.1007/BF01063153)
- Urchs, M., and K. Wuttich, 2022, “Complex logic in Berlin: The becoming of a scientific school and its premature end”, *Edukacja Filozoficzna*, 74: 77–100.
- Woleński, J., 1999, *Essays in the history of logic and logical philosophy*, Cracow: Jagiellonian University Press.
- Woleński, J., 2009, “Tadeusz Czeżowski i Szkoła Lwowsko-Warszawska”, *Ruch Filozoficzny*, 66(4): 647–654.

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