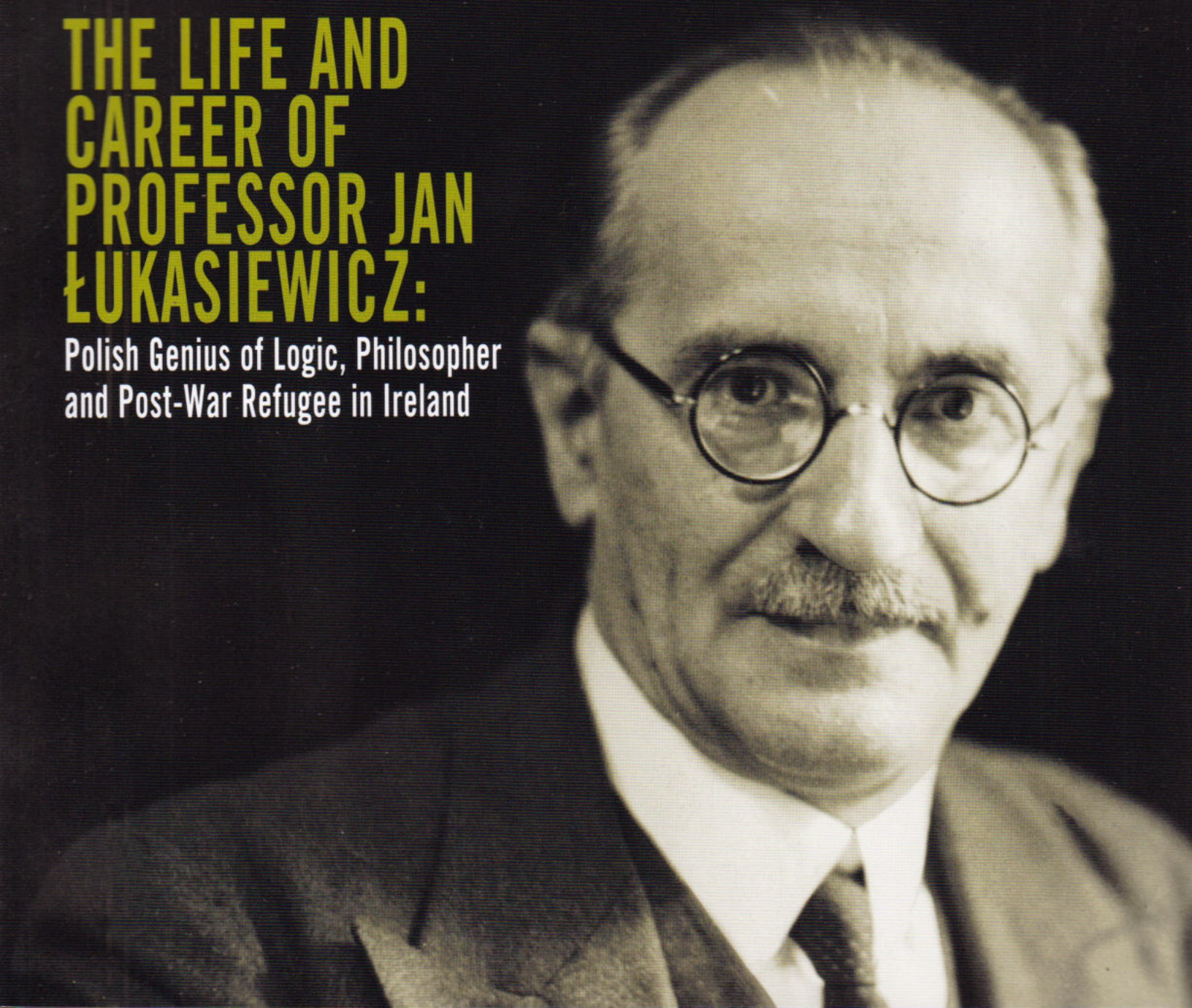


# THE LIFE AND CAREER OF PROFESSOR JAN ŁUKASIEWICZ:

Polish Genius of Logic, Philosopher  
and Post-War Refugee in Ireland



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Ireland  
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in Dublin

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## Contents

INTRODUCTION	04
LVOV BEGINNINGS	06
INTER-WAR WARSAW	08
TRAGEDY OF WW2	10
EMIGRATION TO IRELAND	12
ACADEMIC REVIVAL IN DUBLIN	14
SCIENTIFIC LEGACY	16
RECOGNITION	18
Further Reading / Acknowledgements	20



Professor Jan Łukasiewicz (1878–1956, pronunciation Wuka'čevits) is widely considered to be one of the 20th century's leading figures in the field of logic. He was one of the brightest minds in European science, whose research paved the way for the development of computer science and Information Technology. Author of more than 50 academic works in the areas of mathematical logic and philosophy, he was an integral member of the world-renowned Lvov-Warsaw school of philosophy. Following the devastating trauma of the Second World War, he found refuge in Ireland, a country that welcomed him with open arms.

His life was entwined with the tragic fate of Poland, his beloved country. Financially ruined as a result of the First World War, he was actively involved in resurrecting the University of Warsaw (as its rector), as well as in reviving Polish education and science as the Minister for Education in the first cabinet of independent Poland. The Second World War destroyed nearly all of his scientific manuscripts, and the threat of a Communist regime forced him to flee his home country.

Having survived Allied bombings in Germany and, now effectively a refugee, he accepted an offer of settlement and employment from the Irish State with gratitude and relief. Ireland gave him the opportunity and the resources to advance his scientific research and to publish one of the most important books of his career.

This exhibition tells the story of his remarkable life and achievements.



1. Portrait of Jan Łukasiewicz as Rector of the University of Warsaw – painting by Czesław Wdowiszewski. Up until 1939 the painting was presented in the Chamber of the Senate of the University of Warsaw; it subsequently perished during the German invasion of Warsaw.



# THE LIFE AND CAREER OF PROFESSOR JAN ŁUKASIEWICZ:

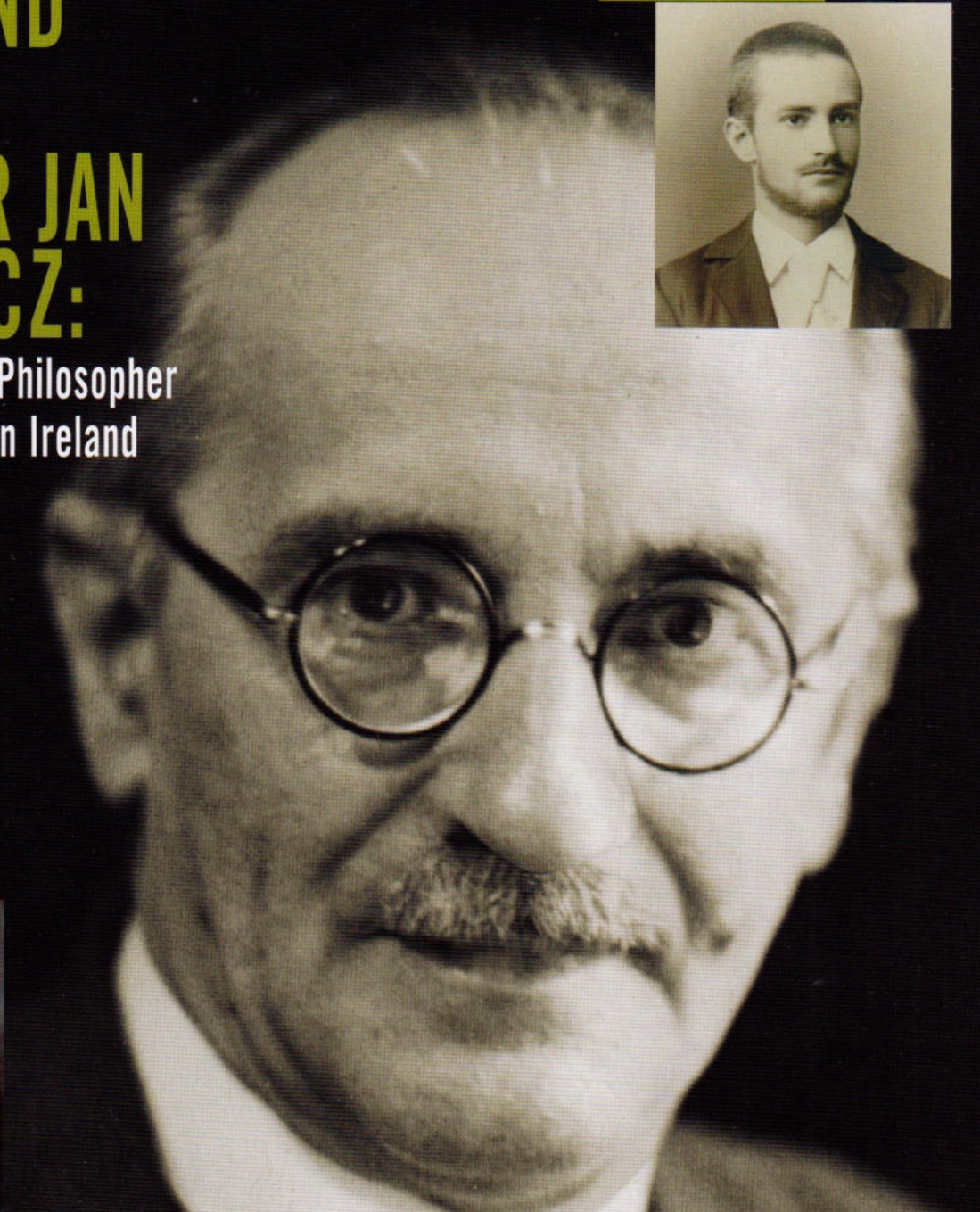
Polish Genius of Logic, Philosopher  
and Post-War Refugee in Ireland

3. Jan Łukasiewicz, 1897.



Jan Łukasiewicz as the laureate of the Science  
Award of the City of Warsaw, 11 November 1935.

2. Jan and Regina Łukasiewicz shortly  
after their arrival to Dublin in 1946.





Jan Łukasiewicz was born in 1878, in Lvov (in Polish: Lwów, in German: Lemberg, in Ukrainian: Lviv). The traditionally Polish city of Lvov was the capital of Galicia, a region that came under the rule of the Austrian Empire after the partition of Poland at the end of the 18th century.

Łukasiewicz studied philosophy and mathematics at the University of Lvov. He was an exceptional scholar and, in 1902, he was awarded a doctorate *sub auspiciis Imperatoris*, a distinction given only to the most brilliant students in the Austro-Hungarian Empire, and received a diamond doctoral ring from Emperor Franz Joseph I.

### PERSONAL MISFORTUNES

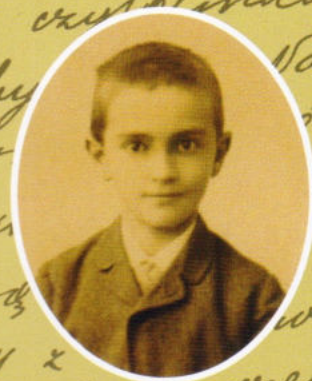
After his graduation, he worked as a private tutor to Princess Maria Sapieżanka, with whom he subsequently fell in love. Łukasiewicz's marriage proposal in 1903 was however rejected; this triggered a nervous breakdown, for which he was treated in a local health resort. The experience left

many years of emotional trauma, which perhaps explains his subsequent aversion to the idea of marriage (he only married 25 years later). Sapieżanka's rejection was later compounded by the tragic death of his closest friend, Bronisław Bandrowski, in the Tatra Mountains in 1914, and the outbreak of the First World War, which destroyed most of Łukasiewicz's personal wealth.

### LVOV-WARSAW SCHOOL

Łukasiewicz found respite from this turmoil in scientific research, guided initially by his tutor and mentor, Prof. Kazimierz Twardowski. It was then that the philosophical school of Twardowski was taking shape, which soon transformed into the famed Lvov-Warsaw School. Generally considered a philosophical movement, the school is best known for its world-renowned contributions in the field of logic, mainly thanks to the work of Łukasiewicz and his two other colleagues, Stanisław Leśniewski and Alfred Tarski.

Jan Łukasiewicz's letters to Kazimierz Twardowski, sent from Błocze Złote on 20 April 1903 and from Warsaw on 9 December 1916.



1. Jan Łukasiewicz as a boy, 1889.



# LVOV BEGINNINGS



2. Princess Maria Józefina Sapieżanka, 1906.



3. Łukasiewicz among the Lvov philosophers, 1913. Sitting from the left: Feliks Kierski, Tadeusz Olejniczak, Zofia Pasławska-Drexlerowa, Mscisław Wartenberg, Kazimierz Twardowski, Daniela Tennerówna-Gromska, Jan Łukasiewicz, Maria Fränklówna. Standing from the left: Marian Borowski, Edmund Gromski, Józef Brokman, Jan Ihnatowicz, Bronisław Bandrowski, Kazimierz Ajdukiewicz, Karol Frenkel, Stanisław Leśniewski and Alfons Baron.



*Jego Magnificencja W. Pań  
Dr. Maksymilian Twardowski  
Rektor Uniwersytetu  
Lwów  
Uniwersytet*





## ACADEMIC ACCOMPLISHMENTS

Łukasiewicz's academic career flourished after his move to Warsaw in 1915, having been offered the Chair of Philosophy at the newly-reopened University of Warsaw.

The university was reopened by the Germans, who took over Warsaw at the beginning of the Great War in 1914; before then, Warsaw had formed part of the Polish territory under the Russian suzerainty, where Polish education at any level was forbidden.

It was in Warsaw that Łukasiewicz delivered a memorable inaugural lecture, outlining a philosophy which he followed throughout his life.

*If from the walls of this renewed university ... one day, a clear philosophical synthesis flashes across Poland, and if we, working together on the development of Polish thought, contribute at least in part to the creation of such a synthesis, then we will have done a great thing, and our labours will be well paid.*

*On Science and Philosophy* (1915)

## PATRIOTIC CALLING

Shortly afterwards Łukasiewicz began a brief yet important political career which culminated in his appointment as Minister of Religious Denominations and Public Education in Ignacy Paderewski's cabinet (January 1919) — the first government of independent Poland recognised abroad.

Following the cabinet's dissolution in December 1919, Łukasiewicz decided to enroll in the Polish army in the face of the Bolshevik threat from the East.

Subsequently, he concentrated on his academic career at the University of Warsaw, where he held many distinguished positions such as vice-rector (1918, 1932/1933) and rector (1922/1923 and 1931/1932).

## MARRIAGE

In 1929 he married Ms. Regina Barwińska. Previously reluctant to marry because of his devotion to his work, Łukasiewicz later reflected on his decision:

*I could never decide to marry ... One of the reasons was that I was afraid that marriage would harm my scientific work, which I always considered the main goal of my life ... My fears ... luckily proved unfounded in the case of Miss Regina Barwińska ...*

*Diary* (1949)

In 1932, as rector, he took part in the inauguration of the Radium Institute in Warsaw, in the presence of Maria Skłodowska-Curie.

Outside the University, he was the chairman of the Warsaw Institute of Philosophy, as well as the founder and President of the Polish Logical Society (1936-1939). Łukasiewicz also held the position of co-editor of many leading Polish philosophical journals.



# INTER-WAR WARSAW

Krasiński Palace, the liveliest center of Warsaw, c. 1910–1926.

1. The first session of the Ignacy Paderewski cabinet on 16 January 1919; the first from the left is Jan Łukasiewicz; the one standing is the Prime Minister Ignacy Paderewski.



2. Reception in honour of Maria Skłodowska-Curie after the inauguration of the Radium Institute in Warsaw (29 May 1932, Royal Castle in Warsaw). Jan Łukasiewicz is the second standing from the left.



3. Jan and Regina Łukasiewicz - wedding photo, 30 April 1929.





If the First World War brought Łukasiewicz to financial ruin, the Second World War ruined his scientific 'atelier'. The ground-breaking scholarly output of the Lvov-Warsaw School was brought to an abrupt halt by the war. In 1939, during the German bombing of Warsaw, his apartment in Warsaw burned down completely (including much unpublished logical research). Five years later, his subsequent Warsaw apartment suffered a similar fate.

*The years 1939-1944 was probably the worst period in our lives. The university was closed, the professors' salary was not paid ... Life was not only difficult due to material shortages ... It was obvious that the Germans wanted to destroy us ...*

*In 1944 ... in the face of the approaching war storm from the East, we decided ... to leave Warsaw and dreamed of getting to Switzerland ...*

*Diary (1949)*

## LEAVING POLAND

His decision to emigrate to Switzerland was very complex. As much as he considered himself a patriot who loved his country, he was regarded as an anti-communist and, for his participation in Paderewski's cabinet, he could have easily been

considered an 'enemy of the people' by the approaching Soviets. Moreover, he could not imagine himself teaching under the communist regime.

The Łukasiewiczz set off on a journey to Switzerland *via* Münster. Due to the unexpected closure of the German-Swiss border (triggered by the attempted assassination of Hitler), they stayed near Münster, where they survived the harrowing Allied bombing of the town.

*The bombings were getting more frequent ... We jumped up at each bomb siren and ran to a bunker. There were several such bunkers in the city ... Each bunker could hold several thousand people, but they were overcrowded ... The weeks that have started now are among the hardest in our lives ... Every moment we were afraid of the Gestapo men who might chase us into a concentration camp, or ... simply shoot us ... We were afraid to talk so that they would not recognize by our accent that we are not Germans ...*

*Diary (1949)*

With the help of the Polish and English military authorities, by October 1945 Łukasiewicz and his wife had reached Brussels.



# TRAGEDY OF WW2

Warsaw in ruins, Krucza Street, 1945.

11



1. Jan Łukasiewicz in the sitting room of his apartment at Sewerynów Street in Warsaw, shortly before the outbreak of the Second World War in 1939. Subsequently the apartment and all his academic research kept there were destroyed in German bombings of Warsaw in September 1939.

2. The Łukasiewiczs taking a walk in the city centre of Warsaw in late May 1939, 3 months before the outbreak of WW2.





In Brussels Łukasiewicz found work lecturing on logic, but the appointment was temporary and his future remained uncertain. With a return to Poland impossible, his life and career took an unexpected turn in February 1946, when he was presented with an opportunity by an unlikely source, as he would later record: 'a Polish-speaking Irishman in the uniform of a Polish officer'. Urged to move to Ireland where, he was told, there were rumours the Irish government was planning to appoint displaced distinguished scholars to academic institutions, Łukasiewicz and his wife accepted the proposal 'with joy and gratitude'.

In early March 1946, they moved to Dublin from Brussels via Ostend and London, staying initially at the Echo Hotel and later at 57 Fitzwilliam Square. During their first few months in Ireland they were supported by the Irish Red Cross and the generosity of a London-based friend, Auberon Herbert.

## GOVERNMENTAL SCHEME

Rumours of the Irish government's interest in employing displaced academics proved accurate, though less than a handful were ever so employed. The scheme was driven by Dr Aubrey Gwynn and Professor Michael Tierney of University College Dublin, with each individual academic's case presented to Taoiseach Éamon de Valera personally. Days after his arrival Łukasiewicz met with Joseph Walshe, Secretary of the Department of External Affairs. Walshe in turn briefed the Taoiseach on Łukasiewicz's plight on 20 March 1946; by mid-summer de Valera had met the Polish logician and personally arranged for an academic appointment:

*In July, I received a summons to appear in the Taoiseach's office. I went with my wife and we were both received by Mr. De Valera very kindly. We talked about mathematics because he himself was once a mathematics teacher. He told me that he would take care of my fate and he kept his word.*

*Diary (1949)*

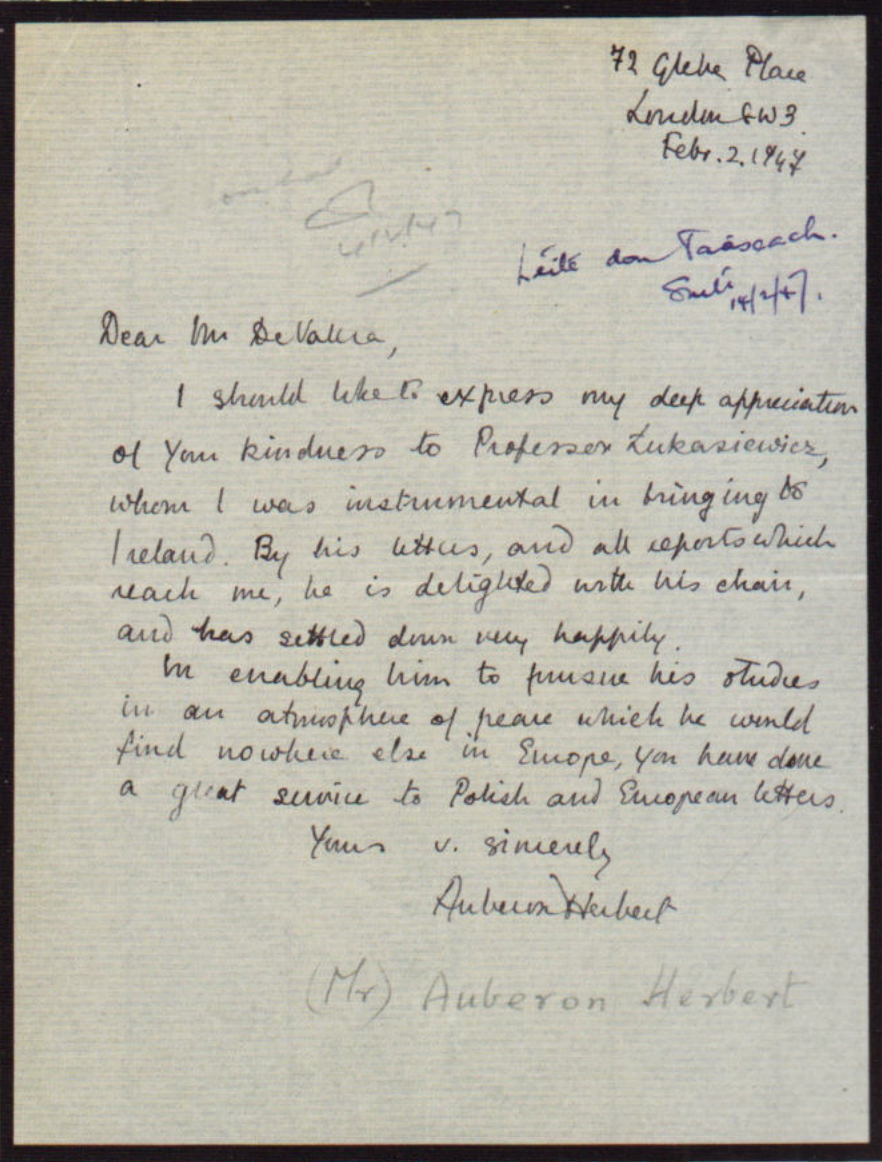


# EMIGRATION TO IRELAND

View looking south down O'Connell Street, Dublin, c. 1950s.

1. Letter from Auberon Herbert, London, to Éamon de Valera, 2 February 1947, thanking the Taoiseach for his kindness to Łukasiewicz. Auberon was 'instrumental' in bringing Łukasiewicz to Ireland, and notes that Łukasiewicz is 'delighted with his chair and has settled down very happily'.

2. The front of the house at 57 Fitzwilliam Square in Dublin, where the Łukasiewiczz resided in 1946-1956.



72 Gledel Place  
London W3  
Febr. 2, 1947

Leite don Taoiseach.  
Euli, 14/2/47.

Dear Mr DeValera,

I should like to express my deep appreciation of Your kindness to Professor Łukasiewicz, whom I was instrumental in bringing to Ireland. By his letters, and all reports which reach me, he is delighted with his chair, and has settled down very happily.

In enabling him to pursue his studies in an atmosphere of peace which he would find nowhere else in Europe, you have done a great service to Polish and European letters.

Yours v. sincerely

Auberon Herbert

(Mr) Auberon Herbert



On 18 September 1946, Łukasiewicz was formally appointed by the council of the Royal Irish Academy as professor of mathematical logic, a position created specifically for him and funded by the Irish government. Two months later Łukasiewicz delivered his first public lecture at the Academy and continued to lecture there for the remainder of his life. Demand for his expertise was high and Łukasiewicz also lectured at Queen's University, Belfast (1950 & 1952) and University College Dublin (1949) – indeed in the late 1990s and early 2000s UCD's computer science building was named after Łukasiewicz.

## RENAISSANCE

While in Dublin, Łukasiewicz was able to reconstruct and publish work that had been destroyed in Warsaw, and to conduct new research in the field of symbolic logic. It was a period later described by one of his former

students, Bolesław Sobociński, as 'one of the most fruitful of his scientific career'.

In 1950 Łukasiewicz travelled to Manchester to give a lecture at the Victoria University of Manchester, where he was met by Alan Turing. Turing wished to discuss in detail Łukasiewicz's theory of Polish notation, hoping, as Łukasiewicz wrote in his *Diary*, to use it in his mathematical machine.

The following year Łukasiewicz concluded his book *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic*, published by the prestigious Clarendon Press, Oxford, in 1951 – a seminal text that continues to have an influence.

On 5 July 1955 he was awarded an honorary doctorate from Trinity College Dublin. He died less than a year later, on February 13, 1956. He was buried in Glasnevin Cemetery in Dublin, with Éamon de Valera present among the mourners.

Fitzwilliam Square, Dublin, where Łukasiewicz resided at no 57 in the years 1946–1956.



1. Laureates of honorary doctorates from Trinity College Dublin on 5 July 1955; Jan Łukasiewicz is the fourth standing from the left.



# ACADEMIC REVIVAL IN DUBLIN

Communications should be addressed to  
THE SECRETARY

ROYAL IRISH ACADEMY.  
19 Dawson Street,  
DUBLIN.

20th September 1946.

Dear Sir,

I am directed to inform you that at a special meeting of the Council it was decided to recommend to the Academy that a Professorship of Mathematical Logic should be established in the Academy and that Prof. Łukasiewicz should be appointed as Professor as from 1st September at a salary of £500 per annum.

A sub-committee has been nominated to confer with Professor Łukasiewicz with a view to arranging for classes and lectures.

Yours faithfully,

Secretary.

The Taoiseach,  
Dept. of the Taoiseach,  
Dublin.

*State Taoiseach not suitable  
reference to the effective date of appointment  
- 1st September 1946. He is definitely  
saying that what should stand  
is 1st Sept*

ROINN AN TAOISEACH  
24 SEP 1946  
ÉIRE

2. Letter to Éamon de Valera from John J. Nolan, Secretary of the Royal Irish Academy, 20 September 1946, informing him that the Council of the RIA approved the recommendation that Łukasiewicz should be appointed as Professor of Mathematical Logic.

## ARISTOTLE'S SYLLOGISTIC

FROM THE  
STANDPOINT OF  
MODERN  
FORMAL LOGIC

JAN  
ŁUKASIEWICZ

3. Cover of Aristotle's *Syllogistic from the Standpoint of Modern Formal Logic*, published in 1951 by Clarendon Press.



It is challenging to summarise Łukasiewicz's numerous and ground-breaking achievements in a manner both concise and understandable to a non-specialist.

## MANY-VALUED LOGIC

The most important of his achievements in the domain of logic was the discovery of many-valued logic (i.e. accepting the existence of "intermediate" values between truth and falsity). This ground-breaking approach defied the traditional, classical perception of logic, based on the idea that a statement can only be either true or false (so called two-valued logic). The construction of many-valued logic by Łukasiewicz shed new light on the age-old dispute between determinism and indeterminism in philosophy and physics.

## HISTORY OF LOGIC

Łukasiewicz is also renowned for his work in the history of logic. Indeed he can reasonably be considered the father of the modern approach to the history of logic, which is pursued, as per the title of his book, *from the standpoint of modern formal logic*.

As he explains himself: *The history of logic must be written anew, and by an historian who*

*has a thorough command of modern mathematical logic. ... Nowadays it does not suffice to be merely a philosopher in order to voice one's opinion on logic.*

*Selected Works* edited by

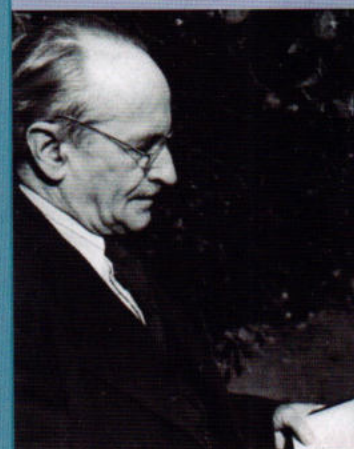
L. Borkowski, Amsterdam: North-Holland (1970)

## POLISH NOTATION

A particular subject of Łukasiewicz's interest was the classical propositional calculus, i.e. the logical theory of conjunctions connecting sentences. Łukasiewicz proposed various ways of axiomatizing this theory and invented an original symbolism for the propositional calculus, called 'bracketless notation' or 'Polish notation', which intrigued Alan Turing so much.

The Polish notation, in which the instruction (operators) precedes data (arguments), is commonly used in the field of computer science, first being implemented in the 1960s in British and American computers.

The reverse Polish notation - i.e. data precedes the instruction - has in turn been widely used in calculators (notably *Hewlett-Packard* calculators), the *Lisp* and *Forth* programming languages and the *PostScript* page description language.



1. Jan Łukasiewicz reading in the park of Fitzwilliam Square, Dublin, in 1946.

Excerpt from Łukasiewicz's letter to Fr. Józef Bocheński of 2 February 1947.

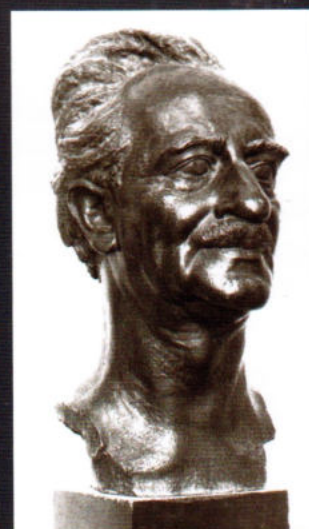


# SCIENTIFIC LEGACY

Jan Łukasiewicz at the ceremony for awarding an honorary doctorate from Trinity College Dublin, on 5 July 1955.



2. Carew Arthur Meredith - leading Irish logician of post-war period and Łukasiewicz's most gifted Irish student, c. 1950.



3. The Head of Jan Łukasiewicz - a bronze sculpture by Alfons Karny first presented at the annual exhibition in the Zachęta Gallery in Warsaw in 1938; it survived the Second World War and now is a permanent exhibit in the Museum of Podlasie in Białystok, Poland.



Łukasiewicz's achievements were appreciated by experts in Poland and abroad – indeed, the Irish government were guided in their decision to employ Łukasiewicz by the opinions of scholars at University College Dublin who were familiar with his work.

Before the Second World War he was elected a member of the most prestigious Polish scientific societies, including the Polish Academy of Arts and Sciences in Cracow, and the Warsaw Scientific Society. He received the most important Polish scientific awards, and was awarded a commander's cross with a star of the *Polonia Restituta* order (1923).

Łukasiewicz became a member of the Philosophical Fellowship Fund in Cambridge and Oxford (1953) and the *Mind Association* in Oxford (1954). In addition to his honorary doctorate from Trinity College Dublin, Łukasiewicz was also awarded an honorary doctorate from Westfälische Wilhelms-Universität in Münster in 1938.

Łukasiewicz's works were translated into 10 languages – a testimony to his academic achievements and renown as a logician. His impact on his Dublin colleagues was recorded in his obituary:

*His [work] ... marks a turning point in the history of logic ... His analyses of essential*

*logical problems are distinguished by great clarity and extraordinary beauty of style.*

*Proceeding of the Royal Irish Academy (1956).*

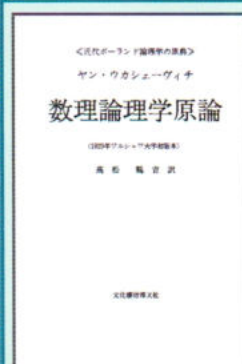
Let one of the most beautiful fragments of his philosophical prose testify to this:

*Whenever I work even on the least significant logistic problem, for instance, when I search for the shortest axiom of the implicational propositional calculus, I always have the impression that I am facing a powerful, most coherent and most resistant structure. I sense that structure as if it were a specific, tangible object, made of the hardest metal, a hundred times stronger than steel and concrete. I cannot change anything in it; I do not create anything of my own will, but by strenuous work I discover in it ever new details and arrive at unshakable and eternal truth. Where is and what is that ideal structure? A believer would say that it is in God and that it is His thought.*

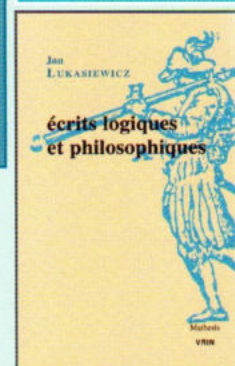
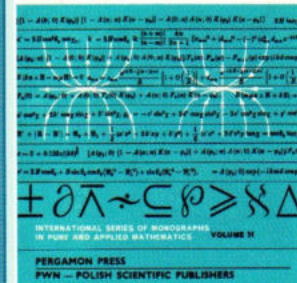
*In defence of logistics (1937)*

On a clear cloudless night sky, one might notice an asteroid, discovered in 1998 by the Italian-American mathematician Paul Comba who named it after the great Polish logician.

# 1. Publications by Jan Łukasiewicz in Japanese, English and French.



## Elements of Mathematical Logic Jan Łukasiewicz





# RECOGNITION

DEPARTMENT OF PHILOSOPHY  
UNIVERSITY COLLEGE DUBLIN

IN ASSOCIATION WITH THE EUROPEAN  
SOCIETY FOR ANALYTIC PHILOSOPHY

## ŁUKASIEWICZ IN DUBLIN

AN INTERNATIONAL CONFERENCE ON THE WORK OF  
JAN ŁUKASIEWICZ

JULY 7-10 1996

### PROGRAMME

This conference has been sponsored by Mind Association.

The organisers also gratefully acknowledge the assistance of:  
Analysis Committee  
The Royal Irish Academy  
Department of Philosophy, UCD  
The Faculty of Arts, UCD  
Convention Bureau of Ireland  
Aer Lingus

2. Cover of the Programme of the 'Łukasiewicz  
in Dublin' International Conference which took  
place in UCD on 7-10 July 1996.

Statue of Jan Łukasiewicz at the entrance to the  
Library of the University of Warsaw, presented  
together with 3 other statues of leading  
representatives of the Lvov-Warsaw School of  
Philosophy: Kazimierz Twardowski, Alfred Tarski  
and Stanisław Leśniewski. The statues were  
erected by Adam Myjak (Warsaw Academy of Fine  
Arts); an excerpt of Łukasiewicz's paper *On  
determinism* is engraved on the column.

3. Commemorative plaque at the front of  
the building at 57 Fitzwilliam Square,  
Dublin (The Łukasiewicz's residence),  
which was unveiled by the Lord Mayor of  
Dublin Maurice Ahern in the presence of  
the President of the City of Warsaw, Paweł  
Piskorski, and the Ambassador of Poland to  
Ireland, Janusz Skolimowski, in April 2001.





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## IMAGE CREDITS:

Page 4: 1. Portrait of Jan Łukasiewicz as Rector of the University of Warsaw – painting by Czesław Wdowiszewski. (*Archives of the Museum of the University of Warsaw*).  
 Page 5. Main image: Jan Łukasiewicz as the laureate of the Science Award of the City of Warsaw, 11 November 1935. (*Courtesy National Digital Archives in Warsaw*). 2. Jan and Regina Łukasiewicz shortly after their arrival to Dublin in 1946. (*Irish Press*, 19 November 1946; *courtesy the Irish Newspaper Archive*).  
 3. Jan Łukasiewicz, 1897. (*Archives of the University of Warsaw*).  
 Page 6-7. Main image: Jan Łukasiewicz's letters to Kazimierz Twardowski, sent from Bilcze Żłote on 20 April 1903 and from Warsaw on 9 December 1916. (*Courtesy the Kazimierz Twardowski Archives in Warsaw*). 1. Jan Łukasiewicz as a boy, 1889. (*Archives of the University of Warsaw*). 2. Princess Maria Józefina Sapieżanka, 1906. (*Private collection of Count Maciej Maria Szeptycki*). 3. Łukasiewicz among the Lvov philosophers, 1913. (*Courtesy Prof. Jacek J. Jadacki*).  
 Page 8-9. Main image: Krasinski Palace, the liveliest center of Warsaw, c. 1910-1926. (*Library of Congress Prints and Photographs Division, Washington, D.C. 20540 USA / LC-F82-994 [P&P]*). 1. The first session of the Ignacy Paderewski cabinet on 16 January 1919; the first from the left is Jan Łukasiewicz. (*Archives of the Museum of the University of Warsaw [Świat 1919, no 4]*). 2. Reception in honour of Maria Skłodowska-Curie after the

inauguration of the Radium Institute in Warsaw. Jan Łukasiewicz is the second standing from the left. (*Archives of the Museum of the University of Warsaw*). 3. Jan and Regina Łukasiewicz – wedding photo, 30 April 1929. (*Archives of the Museum of the University of Warsaw*).

Page 10-11. Main image: Warsaw in ruins, Krucza Street, 1945. (*Edward Falkowski / Forum*). 1. Jan Łukasiewicz in the sitting room of his apartment at Sewerynow Street in Warsaw, shortly before the outbreak of the Second World War in 1939. (*Archives of the University of Warsaw*). 2. The Łukasiewiczs taking a walk in the city centre of Warsaw in late May 1939, 3 months before the outbreak of WW2. (*Courtesy Prof. Jacek J. Jadacki*).  
 Page 12-13. Main image: View looking south down O'Connell Street, Dublin, c. 1950s. (*Allan Cash Picture Library / Alamy Stock Photo*). 1. Letter from Auberon Herbert, London, to Éamon de Valera, 2 February 1947, thanking the Taoiseach for his kindness to Łukasiewicz. (*National Archives of Ireland, TSCN/3/13896A. Reproduced by permission of the Director of the National Archives of Ireland*). 2. The front of the house at 57 Fitzwilliam Square in Dublin, where the Łukasiewiczs resided in 1946-1956. (*Courtesy Prof. Jacek J. Jadacki*).  
 Page 14-15. Main image: Fitzwilliam Square, Dublin, where Łukasiewicz resided. (*Courtesy of the National Library of Ireland, WIL 53[9]*). 1. Laureates of honorary doctorates from Trinity College Dublin on 5 July 1955; Jan Łukasiewicz is the fourth standing from the left. (*Irish Times Archives*). 2. Letter to Éamon de Valera from John J. Nolan, Secretary of the Royal Irish Academy, 20 September 1946, informing him that the Council of the RIA approved the recommendation that Łukasiewicz should be appointed as Professor of Mathematical Logic. (NAI, TSCN/3/13896A. *Reproduced by permission of the Director of*

*the National Archives of Ireland*). 3. Cover of *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic*, published in 1951 by Clarendon Press. (*Courtesy Prof. Jacek J. Jadacki*)

Page 16. Main image: Excerpt from Łukasiewicz's letter to Fr. Józef Bocheński of 2 February 1947. (*Courtesy Prof. Jacek J. Jadacki*). 1. Jan Łukasiewicz reading in the park of Fitzwilliam Square, Dublin, in 1946. (*Courtesy Prof. Jacek J. Jadacki*).

Page 17. Main image: Jan Łukasiewicz at the ceremony for awarding an honorary doctorate from Trinity College Dublin, on 5 July 1955. (*Archives of the Museum of the University of Warsaw*). 2. Carew Arthur Meredith – leading Irish logician of post-war period and Łukasiewicz's most gifted Irish student, c. 1950. (*Courtesy Prof. Jacek J. Jadacki*). 3. The Head of Jan Łukasiewicz – a bronze sculpture by Alfons Karny first presented at the annual

exhibition in the Zachęta Gallery in Warsaw in 1938. (*Archives of the University of Warsaw*).  
 Page 18: 1. Publications by Jan Łukasiewicz in Japanese, English and French. (*Courtesy Prof. Jacek J. Jadacki*).  
 Page 19. Main image: Statue of Jan Łukasiewicz at the entrance to the Library of the University of Warsaw. (*Jadwiga Antoniuk-Sadlakowska / Courtesy the University of Warsaw Library*).

2. Cover of the Programme of the Łukasiewicz in Dublin International Conference which took place in UCD on 7-10 July 1996. (*Courtesy Prof. Jacek J. Jadacki*). 3. Commemorative plaque at the front of the building at 57 Fitzwilliam Square, Dublin (The Łukasiewiczs' residence), which was unveiled by the Lord Mayor of Dublin Maurice Ahern in the presence of the President of the City of Warsaw, Paweł Piskorski, and the Ambassador of Poland to Ireland, Janusz Skolimowski, in April 2001. (*Rafał Kostrzewa / Embassy of the Republic of Poland in Dublin*).



If every print and any 8 in 2, then any 8 in 2.

$\begin{pmatrix} \tau\bar{o} \alpha & \tilde{\nu}\pi\lambda\chi\alpha\varsigma & \tau\alpha\tau\bar{i} & \tau\bar{\omega} & \beta & \alpha \\ \tau\bar{o} \alpha & " & \tau\bar{\omega} & " & " & \bar{\nu} \\ \tau\bar{o} \alpha & " & \mu\eta\delta\alpha\tau\bar{i} & " & " & \bar{\nu} \\ \tau\bar{o} \alpha & \mu\eta & \tau\bar{\omega} & " & " & 0 \end{pmatrix}$

$\begin{matrix} \text{εἰ τῶ α ὑπερχε παντῖ κτὶ τὸ β ὑπερχε παντῖ τῶ} \\ \text{ὑπερχη τῶ α ὑπερχεν αὐτῶ τῶ γ.} \end{matrix}$

$\begin{matrix} \mathcal{A}ab & \text{every a in b} & \mathcal{D}1 & \mathcal{E}ab = N\mathcal{I}ab \\ \mathcal{I}ab & \text{some a in b} & \mathcal{D}2 & \mathcal{O}ab = N\mathcal{A}ab \end{matrix}$

- 1  $\mathcal{A}aa$
- 2  $\mathcal{I}aa$
- 3  $\mathcal{C}\mathcal{K}\mathcal{A}ab\mathcal{A}bc\mathcal{A}ac$
- 4  $\mathcal{C}\mathcal{K}\mathcal{A}ab\mathcal{I}ac\mathcal{I}cb$

- $\mathcal{I}1 \mathcal{C}\mathcal{C}\mathcal{K}pqr\mathcal{C}p\mathcal{C}qr$
- $\mathcal{I}2 \mathcal{C}\mathcal{C}p\mathcal{C}q\mathcal{C}p\mathcal{C}qr$
- $\mathcal{I}3 \mathcal{C}\mathcal{C}p\mathcal{C}\mathcal{C}q\mathcal{C}p\mathcal{C}qr$

- 5  $\mathcal{C}\mathcal{A}ab\mathcal{C}\mathcal{I}ac\mathcal{I}cb$   
 $\mathcal{I}1 p/\mathcal{A}ab q/\mathcal{I}ac r/\mathcal{I}cb \times \mathcal{C}4-5$
- 6  $\mathcal{C}\mathcal{I}ab\mathcal{I}ba$   
 $\mathcal{I}5 b/a c/b \times \mathcal{C}1-6$

$\mathcal{I}7.1 \times \mathcal{C}5-7$