Obscure(d) Modernism: The Aesthetics of the Architect Pal Ligeti

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On an old picture, taken in Budapest in the early 1930s, a little girl is leaning on the wall around the Halaszbastya or Fisherman’s Bastion. From this mock fortification, built for the Hungarian Millennium celebrations of 1896, she had a marvellous view of the skyline of the Hungarian capital which was dominated by one building: the parliament (fig. 1). It is quite possible that the little girl was counting the number of white neo-gothic turrets and arches of the parliament that was, just as the fortress on which she was standing, built at the turn of the century, to express the sovereignty of the nation. Maybe she tried to decipher some of the sculptures on the walls of the parliament which represented Hungarian rulers and famous military people.

Standing on the vantage point of the Bastion, her attention was probably not only drawn to the 250-metre long monumental parliament, comprising 691 rooms and over 12 miles of corridors. She must also have noticed a white rectangular building on the opposite bank of the Danube river: the Toldy apartments, constructed in 1932, so at that moment still brand new (fig. 2). This apartment house built for public servants epitomizes the well-known features of modern architecture. It is a clean white box based on a stark geometry and, in contrast to the parliament, historical styles are not a source of its architectural form. The visual language of this modern volume is drawn from a machine aesthetic. Ornamental details, so essential for the designers of the parliament who tried to materialise a glorious past, are eliminated.

It was the Hungarian architect and former Bauhaus teacher Farcas Molnar who designed the Toldy apartments. As a leading figure of the functionalist movement in Hungary, he was convinced that a scientific and reasoned approach to architecture would eradicate a confusing plethora of outdated options and open up an era in which buildings would respond to the needs of a modernising society. In the Budapest of the early thirties, this enthusiasm was opposed by doubt and constraints. In the city press, one could read that the balconies of the apartment were platforms for “a vista of uncertain future”.

The amazement of the little girl, and the reluctance of the local press, show that the reception of modern architecture, and modern art in general, ranged in interwar Hungary between excitement and fear, fascination and disgust. All those feelings arose from the obligation to bridge the distance between past and present. One could say that opponents as well as supporters of modern architecture were forced to make a trip. In their minds they had to leave the parliament and pass over the Danube river – a river which seems to be at the centre of the great movements in European history – to arrive at the left bank where the Toldy apartments stood. Thinking further in this metaphorical way, one can wonder how modern architects themselves traversed the river of history. Was it for them a ‘crossing of the Rubicon’? Did they, as Caesar once did, commit themselves to an irrevocable and revolutionary course of action? Did they reach with their modern buildings a point of no return or was their will to create a new world - to some degree - still anchored in the past?

What I intend to do in this article is to focus more closely on the specific place modern architects were claiming in history. Could they eliminate every trace of the past as they sometimes suggested in their manifestoes and periodicals? My principal argument is that history played a crucial role in their theoretical reflections. The past was far from alien to what they wanted to realise in new architectural forms: on the contrary, it could even form an ultimate source of legitimation. The case I will develop to illuminate this idea centres on the theories of the Hungarian Jewish architect and theoretician Pal Ligeti, who was, in the second half of the twenties, the master of Farcas Molnar, the architect of the Toldy apartments. More specifically, I will focus on a theoretical art-historical study of Ligeti’s which he often discussed with his pupil and co-worker Molnar: Der Weg aus dem Chaos: Eine Deutung des Weltgeschehens aus dem
Ligeti’s *Der Weg aus dem Chaos* appeared in 1931, the year when the Toldi apartments were designed. Author and book have been obscured by history. Neither the fact that Pal Ligeti was the leading pioneer of Hungarian Modernist architecture (with Molnar he realized the first modern functionalist building in Hungary, the Delej Villa in Budapest), nor the fascination that *Der Weg aus dem Chaos* caused among modernists from all over Europe, resulted in substantial studies of his life and work. The few short articles devoted to him, or the short mention of *Der Weg aus dem Chaos* in studies on world history, have been mainly dominated by the idea that his philosophy of history and art theory was fascinating but intellectually negligible because it consisted of an incoherent patchwork of ideas. I want here to probe more fully the foundations of and justification for this treatment of Ligeti’s work.
Heynickx, ‘Obscured Modernism’

Fig. 2

To answer that question, I firstly want to offer an analysis of Ligeti’s art philosophy by delving into his intellectual sources and the graphical figures and charts he designed to elucidate his theories. Secondly, I will raise questions about the nature of writing (architectural) history and will discuss how our knowledge of twentieth-century aesthetics has been formed. More particularly, I will explore the mechanism by which historiographical narratives canonised some, and excluded other, strains of modernist thought.

I. Three morphological stages

We don’t know much about the life and career of Pal Ligeti. His life ended in 1941, at the age of 56, in a concentration camp.8 Echoes from the past are all that save Ligeti from total oblivion. Those scattered and lingering traces have different forms. The buildings Ligeti realised – varying from a social apartment block to an exclusive boathouse – are the most permanent remains. In the memoirs of his friends or in his correspondence, he comes to the foreground as a man who worked day and night to improve his study of 450 pages, Der Weg aus dem Chaos.9 If one is lucky, one can nowadays still find the detachable book cover of this work in German antique shops. The coloured dust jacket (fig. 3) reflects Ligeti’s huge ambition. It miniaturizes a gigantic project: departing from Western art history, stretched out between the prehistoric wall paintings of Lascaux and modern skyscrapers, Ligeti wanted to unravel the constitutive patterns of history. Ligeti believed that those patterns were cycles and that, once he had reconstructed the sequences of historical events, he would apprehend clearly and with certainty the laws which governed the course of history.

![Der Weg aus dem Chaos book cover](image)
Heynickx, ‘Obscured Modernism’

The main thesis of Der Weg aus dem Chaos, which was published by the prestigious German publisher Callwey, was clear and simple. After studying for 25 years, Ligeti claimed that in art history three succeeding phases could be detected: one that was architectural and stood for a period where centripetal forces were at work; then an interval of time marked by sculpture, which embodied a stage of cultural consolidation; and, finally, a phase that was dominated by painting and therefore was the object of centrifugal tendencies. Architecture reflected an upward striving, sculpture was synonymous with a cultural zenith and painting meant that one lived on a too comfortable panorama which encouraged an existential easiness that then blocked every longing for new creativity. And the price for that lack of creativity was high: in the period that painting was setting out its agenda, an artistic cohesiveness was made impossible because many different views on art were antagonistic towards each other instead of, even momentarily, working together and (in doing so) creating a coherent artistic output (fig. 4 and fig. 5).

These three big phases (architecture, sculpture, painting), which – deriving from the same logic – can be broken up into detailed sub-phases, could not only be traced in art history. Ligeti detected them in every aspect of human culture: religion and politics, economics and science. The cycles not only laid out a broad morphologic evolution; they articulated most of all Ligeti’s own explicit value judgements. When architecture was the dominant art, Ligeti believed, one was living in an anti-individualistic time based on order. Sculpture was the intermediate phase which knew an unstable equilibrium between a fading ambition to create order and a blossoming appetite for liberty. In a period fully demarcated by liberty and dissoluteness, painting set out the artistic agenda.

Ligeti thought himself to have decoded the logic of Western culture and he saw direct opportunities to share his historical awareness. His conceptual model was designed to make the past transparent, to make the present pregnant with meaning and to offer an active guide for the future. The most important lesson of art history, for Ligeti, was that a society that lost its unity was driven from a state of cultural coherence and drawn into an amorphous art system, within which it

Fig. 4

would, consequently, enter the stage of painting. For example, at the end of the nineteenth century, when impressionist painting dominated the artistic landscape, there had, according to Ligeti, been no unified architectural style, only a mixture of neo-styles. But in the period after World War I, the period in which Ligeti himself was living, the Modern Movement offered a way out of the chaos. The exactness, thrift and efficiency of modern architecture guaranteed the creation of a future community punctuated by solidarity, order and stability.\textsuperscript{10}

\textbf{Fig. 5}

Ligeti encountered the past through the discovery and classification of facts (fig. 6). But it was not only the creation of an adequate ordering tool that was at stake in Der Weg aus dem Chaos. The idea that history was cyclical and could be synthesized by means of parabolic curves provided Ligeti most of all with a certainty: the fluid past had a logic. Moreover, past, present and future were unified in a total movement, with a clear rhythm. A mapping of the flux and change of the past could make the present and the imminent future transparent and pliable. It is on this point that Ligeti’s thoughts became strongly coloured by an explicit teleology. The only correct course for Western culture was, according to him, one that would favour the development of an era where the ideals that were incarnated by architecture, such as stability and coherence, would be the core values. And the only concrete concept that had the capacity to deliver this programmatic ideal was modern architecture (Der Weg, 217-53).

It would be incorrect to label Der Weg aus dem Chaos as a completely innovative text. Ligeti’s conceptual history did not originate in a vacuum. His operatic statement that modern architecture was the inevitable consequence of new social, economic and political conditions, and his claim that there was an antithesis between a despicable past and a yet undecided present, can be traced to many theoreticians of modern architecture in Europe.11 And some of them, just like Ligeti, were explicitly fascinated by the riddle of history. The Russian constructivist Mosei Ginzburg reflected extensively on the relation between architectural styles and the social political conditions of the era in which they blossomed.12 Fellow countryman and futurist Velimir Khlebnikov not only described a world in which people lived in mobile glass cubicles that could be attached to skyscraper-like frameworks, but also drew up long ‘Tables of Destiny’ delineating historical intervals and dates in an attempt to discover a hidden logic in the patterns of the past.13 Khlebnikov, who among his contemporaries was regarded as a poet (Mayakowski referred to him as a ‘poet for producers’), (de)composed historical intervals and dates with the same purpose with which he wrote esoteric verses full of neologisms or futurological essays: by starting up exciting
experiments. Ginzburg on the other hand, tried, by means of his historical reflections, to define and claim a place in architectural practice. In Style and Epoch, by many considered to be the single most important piece of writing on architecture to come out of Russia in the twentieth century, he aired the constructivist idea that the processes of modern life had to be incorporated in architecture. And what was the case for the present also applied to the past: every architectural form could only be understood as a solution to problems which had revealed themselves in daily life.

If Khlebnikov’s world history can be described as a mathematical and a quite hermetic poetry, and if Ginzburg was attempting to plot the architectural laws determining any work of architecture and tried to propose a systematic design method, then Ligeti’s focus on the broad evolution of art history served as an instrument to scan or, better, to diagnose, Western civilization. Moreover, what makes Ligeti’s reflection on the art historical past so unique is its deliberate fusion of different thought frames. In the first place, he was unmistakably inspired by the writings of the so-called Vienna School, a group of art historians of which Alois Riegl and Max Dvořák were the founding fathers and that is intimately associated with the doctrine of historical continuity. This school of art history, extremely popular in Hungary in the first decade of the twentieth century where Ligeti was trained as an architect, was born out of a deep concern with the undercurrents of cultural manifestations that are peculiar to a specific timeframe. To successfully grasp those undercurrents, it relied on a morphologic analysis based on the conviction that by studying artistic forms one could detect the historically-contingent tendencies of an age or nation, the so called Kunstwollen, that drove stylistic developments. In the writings of the Vienna School the history of art turned into a history of ideas, a Geistesgeschichte, which propelled a discourse addressing the contradictions of modernity. Art history became a lens through which the adherents of the Vienna School conducted a sustained commentary on the present. This cultural criticism, organised around the distinction between a pre-modern community (Gemeinschaft), in which all social relations were based on organic personal ties and the modern society (Gesellschaft), structured around a series of abstracted anonymous relations, became the logical counterpart of art historical analysis. Like the devotees of the Vienna school, Ligeti composed a study in which specific moments out of the past (in his case, the moments when architecture had been the leading artistic force) were idealised. The negative reflection of a fallen or chaotic present that lined up with such an analysis, produced a chain of bipolar concepts which were at work on every page of Der Weg aus dem Chaos: the tension between a coherent style and a delirious fashion, the clash of an organic Kultur (‘culture’) that had an optimistic and constructive undertone and a Zivilisation (‘civilization’) which acquired a negative overtone of alienation and disintegration. This transformation took place in many works during the period, but was most explicit in studies on world history like Ligeti’s Der Weg aus dem Chaos.

II. The tradition of world history

After World War I, the genre of world history entered a new phase of development in Europe with the publication of Der Untergang des Abendlandes (The Decline of the West), written by the German philosopher Oswald Spengler, the massive work in which he articulated a cyclical theory of the rise and decline of civilisations. Constantly referring to the key concepts Kultur and Zivilisation, Spengler developed the thesis that Western civilization had completed its cycle and was heading into an inevitable downfall. When the first volume of The Decline was published in 1918, it became a wild success in Germany partly because of the perceived national humiliation of the Treaty of Versailles (signed in June 1919) and economic depression fueled by hyperinflation seemed to prove Spengler right. (Spengler had in fact believed that Germany would win while he was writing the book.) The Decline comforted Germans because it seemed to rationalize their military defeat and economic collapse as parts of a larger, world-historical process. Spengler’s work was also widely successful outside Germany as well. By 1919 The Decline had been translated into several languages. From then on the book’s number of fervent admirers, as well as its fierce opponents, constantly increased all over Europe.
As can be said of Ligeti’s philosophy, Spengler’s conception of world history had been deeply influenced by the Vienna School, from which he had borrowed a universal concept of style. Also for him stylistic forms were connected and had to be understood as expressions of cultures which were caught up in a formal schema of birth, blossoming and decay, which meant that history turned into a historical morphology of world views.\textsuperscript{18} Ligeti mentioned Spengler in his study several times but then always explicitly disagreed with him. He could not share Spengler’s pessimistic vision of man’s ability to anticipate a near future. A personal meeting he had with Spengler in Munich at the end of the twenties did not change that view.\textsuperscript{19}

Because of its generalisations and suggestive terminology, world history – an old tradition with eccentric figures with very different backgrounds – has never been much appreciated by scholars. They have tended to view it with scepticism and even suspicion. World historians, so it has often been argued, did not stay close enough to the facts and lost themselves in pure speculations only to prophesize the final end of mankind.\textsuperscript{20} Such a view is far too negative and, most of all, one-dimensional. It is better to look at world history as a meaningful act, a genre in which historical knowledge becomes existential knowledge. In an age of rapid change and apocalyptic potential, works on world history provided people with a sense of place by giving meaning to historical events. In studies on world history, the past was presented in such a way that continuity prevailed on interruption, and the combination of an explanation of historical change and a prediction of the future offered the opportunity to affirm values. A study of world historians and their work can therefore inform us about the different ways in which history was mobilised to cope with deep transformations and can shed new light on how history writing can be an integrative process, an attempt to create stability.\textsuperscript{21}

The authors of world histories are constantly trying to stand outside temporal cycles and tragedies by exceeding them with the help of their reflections. By referring to an eternal referent they provide progress with a stable footing.\textsuperscript{22} For Spengler this referent was a German barbarian virility. The English historian Arnold Toynbee found such a referent in a unifying religion. The American historian of technology and science Lewis Mumford presented the Neolithic village as a perfect ideal.\textsuperscript{23} For Ligeti, who also felt he was living in an axial age, architecture offered solidity and a starting point to pursue and rescue unity. His system of graphs and epochs formed a thought frame that enabled him to reconcile the immutable eternal with the rupture of temporal moments, the infinite with the ephemeral and, consequently, the one with the many. But how did this ‘reunion’ come into being, and was this thinking strategy as coherent as it pretended to be?

### III. The panorama and The Detail

The method of the Vienna School and the genre of universal history offered the blueprints for the scaffolding of Der Weg aus dem Chaos. Both traditions are full of the concrete techniques Ligeti developed to select and present historical facts. In the first place, and this is typical of the art historical method of the Vienna School, Ligeti created a genealogy of cultural development by establishing a complicated network of similarities, overlapping and criss-crossing each other in the course of a long evolution. In the second place, parallel with the creation of interrelations in the fields of science, religion and politics, Ligeti followed a strategy of simplification which meant that crucial details of thousands of years of world history were left vague or undefined. In fact, he generated a complex and gigantic body of knowledge of which the weight and volume was mastered through an act of compression: architecture, sculpture and painting functioned as summarizing markers. They revealed the fundamental nucleus of a period (fig. 7).

It was the morphological categories of architecture, sculpture and painting that helped Ligeti to explore the links between the artistic, intellectual and socio-economic movements in world history, but it was Ligeti’s graphs that made it possible for Der weg aus dem Chaos to visualise both the panorama of history as its details and, moreover, succeed in intertwining both. Therefore, one has to look at the graphs as a communication system based on a lucid density. The graphs generated a double sense: they offered concise images of specific developments and a ‘Big Picture’.

The graphs were certainly not eye candy, but Gebrauchsgraphic\textsuperscript{24}, functional diagrams supporting a communication strategy aiming at a coherent clarity. They remind us of the aesthetic
aspects of every “regime of historicity”. As the German theoretician Jörn Rüsen has demonstrated, scientific texts which are driven by the ambition to contribute to the historical memory of a society, cannot simply be analysed in their cognitive dimension (which epistemology is at work?), nor can they be reduced to a clear political frame: they have to be understood also as aesthetic compositions.\textsuperscript{26} The graphs in Der Weg aus dem Chaos are not passive illustrative schemes but ‘paper tools’ that had to convince the reader by creating a specific effect that was already announced in the title of Ligeti’s book: history was no chaotic universe but a logically ordered collection of facts (fig. 8).\textsuperscript{27}

Ligeti’s ability to assemble multiple dimensions into a single, wide image (a sort of widescreen), without losing compactness and a solid frequency, can explain the positive reception of his work. Ligeti’s charts and graphs were extremely performative. Even those who totally disagreed with Ligeti’s cyclical models and labelled Der Weg aus dem Chaos as a parlour magic trick or as a modern version of palm-reading, were charmed by its graphical illustrations, because of its aesthetic reasoning. In many reviews, there was a remarkable shift from critical distance to admiration for the transparency and completeness Ligeti obtained in his study. Most of the time, a review started with the objection that Ligeti – and this was certainly true – did not hesitate to manipulate historical facts so that they matched his conceptual models:

When I was reading his book, I constantly had the feeling that everything he tells is true, only in so far one is not even a millimetre away from the angle from which he is observing the secret depths of history.\textsuperscript{28}

But at the end of the same review, this kind of critique moved to the background:

Finally, Pal Ligeti’s approach is grandiose, suggestive and pretty close to convincing. It is so pleasant to see everything in a non complicated way. It creates a feeling of victory when the reluctant truth finds its place between the limits of a deliberately built system. That creates a high that helps to forget the human mortality.\textsuperscript{29}

If Der Weg aus dem Chaos aroused interest, then this was probably because of its images rather than because of its words. The relation between both was also innovative: word and image collided, but they also fractured each other. The high expectation Ligeti had created with his graphs, namely that modern architecture would guarantee a bright future, was not fully supported by his written discourse. The statement with which he started his book, “Writing is not my Job” (3), manifested itself through the whole text. Contrary to what he suggested with his graphs, Ligeti detected incoherence in the theory and practice of modern architecture. According to him, it would take some time before modern architecture could attain equilibrium, as architecture had always done in the past. In other words, despite the bold prophecies in his graphs, he still doubted what the near future would bring (see Der Weg, 283-96). How can this be explained?

In many regards, Ligeti’s reflections were liminal. He understood that it was not yet possible to fully embrace the new certainties he saw illuminating a new panorama in modern architecture. Or, to put it in his own terms, he saw himself standing at the end of a curve and at the beginning of one that still had to start. Despite all his efforts to gather and group, to shape and fix, a plethora of historical facts into relatively stable, seemingly ‘objective’ panoramas, he was not sure if the curve of his own time could be read as concave or convex. In short, he was confronted by the weight of the predictability he himself had brought into being. His system told him what would happen, but in his thoughts about concrete architectural practice, he was directed to what could be done (Der Weg, 291-96).

But the question remains: how can it be explained that Ligeti could project a unity onto the past, and even could expect that this harmony would be at work in the future, but that his analysis of his own epoch became so marked by uncertainty and even explicit hesitation? Quite simply, the anti-modernism that was located in the historical cycles came at that moment into conflict with a Modern movement claiming an autonomous, functional response to the problems of the present.
Ligeti’s cycles did not subscribe to such a vision of change. They were in the first place based on continuity and recognition. As the composer of historical diagrams, Ligeti was projecting an order onto the past and not advocating a break with it as modernist architects such as he himself did in their periodicals, manifestoes and buildings. The tension that arose from the clash of those two attitudes towards the past generated a fundamental conflict, and consequently led to ambivalence (one could say a sort of contradiction) in Ligeti’s thought. At least, it can explain why a young generation of modernist architects who were trained in his office remembered Ligeti not so much as the person who introduced them into the field of modern architecture but as a man who was still trapped in the past.30

Ligeti’s shilly-shallying in the present and his deep confidence in history, or better, his ambivalent use of the past to defend the necessity of modern solutions in the present, are nowadays seen as essential for an understanding of the fractured nature of modernism.31 But that is only demonstrable in recent thinking. According to the influential post-World War II historians of modernist architecture who composed the official canon, nostalgia or melancholy were not at all ingredients of the discourse of the pioneers of modern architecture. Modernists, as was repeated by influential historians as Nikolaus Pevsner, dreamed in the first place of a utopian world where everything would be new and different.32 The reason why there is not much known nowadays about Ligeti has therefore not only to do with the fact that Ligeti himself and a lot of his close friends (and indeed their archives) were vaporised in the destructive torrents of the Second World War. The dark corner of modernism occupied by Ligeti is also explained in the ‘between-ness’ of his thinking. His thoughts were situated in a sort of no man’s land between past and present, which he tried to map by developing his gigantic system. The narratives of post-war historiography on modernism, on the contrary, were structured around a clear-cut division between past and present which privileges the modern movement: every explanation of a new architecture in a new society had to start from the present, projecting back on the past’s own concerns. Ligeti worked the other way round. He wanted to unravel the fabric of history, and he moved with his cycles gradually towards the present, which through his analysis became more of an unstable construction than a comfortable starting point of reflection. In Ligeti’s mind the past dominated the present. Therefore Ligeti could not appear on the radar of modernist scholars – or could at least only form a small blip. Just because his metahistorical work could not be identified with an avant-garde that broke away from the past, it gained the label ‘minor’ or even ‘marginal’.33

Notes

1 With many thanks to Zsuzsanna Bőröcz whose language skills made it possible to work on sources written in Hungarian.


5 The Italian novelist and cultural philosopher Claudio Magris defends this idea in Danubio (translated by Patrick Creagh as Danube: A Sentimental Journey from the Source to the Black Sea (London: The Harvill Press, 2001)) in which he tracks the course of the Danube from its sources to the sea. This trip evolves into a rich canvas of the multicultural European history.

6 Paul Ligeti, Der Weg aus dem Chaos: Eine Deutung des Weltgeschehens aus dem Rhythmus der Kunstentwicklung (München: Verlag Georg D.W. Callwey, 1931). This book was the translation and elaboration of a work that Ligeti had published in 1923 in Hungary. Uj Pantheon felé [Towards a New Pantheon]. This version was in 1934 translated from German into Hungarian and published in Budapest. Hereafter cited parenthetically as Der Weg.


8 Even about the year in which he died, there exists some confusion. Most works mention 1941, but the architectural historian Andras Ferkai situates Ligeti’s death in 1940. Andras Ferkai, “Hungarian architecture between the Wars” in The Architecture of Historic Hungary, eds. Dora Wiebenson and József Sisa (Cambridge, Mass.: MIT Press), 255.


Erno Marosi, *Die ungarische Kunstgeschichte und die Wiener Schule, 1846-1930* (Vienna: Collegium Hungaricum), 86-87. This is also a main thought of a review article from the thirties: Ladislaus Baránszky-Jób, “Die gegenwärtigen Problemen ungarischen ästhetik” in Zeitschrift für ästhetik und Allgemeine Kunstwissenschaften, 31 (1937): 32-60.


See the contributions in Alexander Demandt and John Farrenkopf (eds.) *Der Fall Spengler: Eine Kritische Bilanz* (Köln: Böhlau, 1994).


The meeting is mentioned in Karl Baur, *Zeitgeist und Geschichte: Versuch einer Deutung* (Munich: Callwey Verlag, 1978), 86.


An idea which was developed in the often reprinted and translated book of Karl Löwith: *Weltgeschichte und Heilsgeschehen: Die Theologische Voraussetzungen der Geschichtsphilosophie* (Stuttgart: Kohlhammer, 1953). For a more specific but illuminating analysis of the political role of world history, one has to consult Hans Sluga’s work on world history in the Weimar Republic. See Hans Sluga, “‘Der Nationalsozialismus und die Idee der Welthistorischen Krise’ in ’Die besten Geistern der Nation’: Philosophie und Nationalsozialismus”, ed. Ilse Korotin (Vienna: Picus Verlag, 1994), 18-29.


27 The concept of ‘paper tool’ was introduced by Ursula Klein in her study on the history of chemistry. She demonstrated that formulas were not merely a convenient shorthand, but productive tools for creating order amid the chaos of early nineteenth-century organic chemistry. With the help of formulas chemists could create a multifaceted world on paper. The same can be said about Ligeti’s graphs. Ursula Klein, Experiments, Models, Paper Tools: Cultures of Organic Chemistry in the Nineteenth Century (Stanford: Stanford University Press, 2001). See also Olaf Breidbach, Bilder des Wissens: Zur Kulturgeschichte der wissenschaftlichen Wahrnehmung (Munich: Wilhelm Fink Verlag, 2005).

28 Miklos Marsovsky, “Uj pantheon felé Ligeti pal könyve” in Nyugat 21 (Summer 1926).

29 Miklos Marsovsky, “Uj pantheon felé Ligeti pal könyve” in Nyugat 21 (Summer 1926). A similar appreciation was developed in a review of Der Weg aus dem Chaos in Deutsches Volkstum, 14: 14 (September 1932): 728-729.


