

Rudolf Laban's visual thinking: Modern dance theory and practice in dialogue with art and architecture

Anja Pawel

Humboldt University, Berlin ✉

<https://dx.doi.org/10.5209/anha.100609>

Recibido: 31/01/2025. Aceptado: 17/07/2025

Abstract. Rudolf Laban, a pioneer of modern dance, intertwined visual arts and crafts with his choreographic practice. He mobilized abstract geometric shapes in his dance education. His use of the icosahedron form, for example, derived from geometric and stereometric architectural models, has yet to be mined. It allowed him to renegotiate the relationship between body and space. The paper also compares Laban's adaptation of the icosahedron to that of architects like Richard Buckminster Fuller, who used its implications of motion to create lightweight architecture. Laban, too, was interested in building domes made of lightweight material based on the platonic solids to perform his huge movement choirs. Based on a dialogue between visual art, modern dance and architecture, the article sheds light for the first time on Rudolf Laban's visual thinking and the role of the pictorial in his work.

Keywords: modern dance; visual art; architecture; intermediality; abstraction.

[sp] El pensamiento visual de Rudolf Laban: Teoría y práctica de la danza moderna en diálogo con el arte y la arquitectura

Resumen. Rudolf Laban, pionero de la danza moderna, entrelazó las artes visuales y la artesanía con su práctica coreográfica. Movilizó formas geométricas abstractas en su enseñanza de la danza. Por ejemplo, su uso de la forma del icosaedro, que derivada de modelos arquitectónicos geométricos y estereométricos, aún está por explotar. Esta le permitió renegociar la relación entre cuerpo y espacio. El artículo también compara la adaptación de Laban del icosaedro con la de arquitectos como Richard Buckminster Fuller, que utilizó sus implicaciones de movimiento para crear arquitectura ligera. También Laban estaba interesado en construir cúpulas de material ligero basadas en los sólidos platónicos para realizar sus enormes coros de movimiento. A partir de un diálogo entre el arte visual, la danza moderna y la arquitectura, el artículo arroja luz por primera vez sobre el pensamiento visual de Rudolf Laban y el papel de lo pictórico en su obra.

Palabras clave: danza moderna; arte visual; arquitectura; intermedialidad; abstracción.

1. Introduction

After the colony of life reformers was established at Monte Verità in Ascona, Switzerland, around 1900, Ascona became a place of residence for exiles during the First World War. Artists and

intellectuals as well as prominent dancers, such as Mary Wigman and Suzanne Perottet, settled there. In 1913 the dancer, choreographer and dance theorist Rudolf Laban opened a summer school on Monte Verità, which served as a laboratory for his attempts to create a new approach to dance in the German speaking countries. From here his work began to spread throughout the contemporary culture scene.

The artists who resided there showed a keen interest in the dance events and some like Sophie Taeuber Arp even took part in them. Hugo Ball described this institution as promising from an artistic viewpoint, precisely because of Laban's presence:

Since Mr. von Laban transferred his dance school from Munich to Zurich in 1913, his institute has increased in awareness and scope of its curriculum. To enhance its fundamental ideas, Laban's school has expanded far beyond what conventional dance schools offer the student. It has developed into an institute that teaches not only skills but also artistry¹.

Ball reported that Laban envisaged a holistic education for his pupils, which included not only dance but also visual arts, music and oratory. He emphasized that under this program the pupils would "grow" and develop into independent "artists". Indeed, according to the program, students received a universal education consisting of dance, singing, rhythmic exercises, oratory, visual art as well as crafts and daily activities such as gardening (fig. 1)². Ball traced this approach back to an artistic as well as spiritual understanding based on the idea of the Gesamtkunstwerk:



Figure 1. Rudolf Laban, Brochure "Schule für Kunst", 1913, Ascona, Fondazione Monte Verità, Casa Anatta.

¹ All translations are by the author, unless otherwise indicated. "Seit Herr von Laban seine Tanzschule von München 1913 nach Zürich verlegt hat, hat sein Institut an Bewußtsein und Umfang des Studienplans sehr zugenommen. Die Laban-Schule ist heute in notwendiger Ausgestaltung ihres Grundgedankens weit über das hinausgewachsen, was eine Tanzschule herkömmlicher Art den jungen Eleven zu bieten hat. Sie hat sich zu einem Institut entwickelt, das sich nicht nur die Ausbildung des Könnens, sondern schon die Erziehung zum Künstler angelegen sein läßt." Hans Burkhard Schlichting, (ed), *Hugo Ball: Der Künstler und die Zeitkrankheit. Ausgewählte Schriften* (Frankfurt am Main: Suhrkamp, 1984), 54.

² A holistic approach that reminds one of the Waldorf education, as it was created by Rudolf Steiner, who opened his first school in 1919 in Stuttgart, Uhlandshöhe.

In addition to cultivating his intellectual and physical talents, the student should have the opportunity to grasp the connection of his art to the rhythmic and cultural whole. He should perceive himself not only as an individual but also feel himself a part of the cosmos and the total artwork. And so, the theory of the leading personalities R. von Laban and Mary Wigman proves to be an artistic community- and festival-concept of rich and productive potential³.

From Ball's comments on Laban's work, and from the school's program, implemented by him and his former student and colleague Wigman, it is clear that Laban developed a universalizing concept of art that drew from various forms of expression in visual arts and crafts. Ball's definition of the *Gesamtkunstwerk* as a cosmic unity defined in spatial terms proved particularly important to a central concept in Laban's theory: he sought inspiration in his own work through the interaction with other forms of *Gestaltung*. This concept governed Laban's ongoing attempts to develop a new dance method by incorporating different art forms that had an impact not only on the dance, but also on the learning processes and lives of the students in his school. This paper argues that through this approach he strove to establish a new way of perceiving and creating form in dance.

In my dissertation, I already researched how visual art and dance influenced each other in the first half of the 20th century⁴. Here I would like to develop this topic further. Precisely this interdisciplinary and intermedial connection is a point that still needs to be researched to a greater extent. In the following, I will focus on Laban's modern dance theory and practice; I will examine how his interest and practice in visual arts shaped the visual thinking in his choreographic work. Beyond this, I am also interested in showing that his intermediary position –acting as an interface between visual art and dance– stimulated his renewal of dance by turning away from classical ballet. In this sense, he was however no exception⁵.

Due to his training and ongoing interest in the visual arts, Laban's work in dance theory and practice was not only characterized by the aesthetics of modern art but also heavily depended on it. I would like to focus in particular on Laban's use of images in the broadest sense (drawings but also life-size models), as images and visuality in general have not yet been sufficiently taken into account in previous research.

The use of models and drawings, together with his visual approach, produced images that characterize his work and which were closely linked to classical modernist art. My central thesis is that this had not only a purely aesthetic character, but also a functional and theoretical one. This was related to a changing understanding of space like the emergence of a multi-perspective in dance, which could be also observed simultaneously in visual arts. The already mentioned differentiation from more traditional dance forms was also based on the idea that physical and pictorial parallels are inherent in the generation of any kind of form, be it in dance or in visual arts. For this reason, I will focus not only on the images produced by Laban's theoretical and choreographic work on dance (which is usually not sufficiently taken into account by Dance Studies) but also on the links that connect the work of visual artists and architects with Laban's creations. In the last part of the present text, I will make a closer comparison of certain aspects of architect Richard Buckminster Fuller's work with Laban's. The common experimental foundations of their innovations sums up my key thesis at the end.

Multidisciplinary approaches were popular around 1900. Intellectuals relied on many sources from different disciplines and were not usually specialists for one single topic, while science and art appeared intertwined. I will first focus on the circumstances that enabled Laban to generate his unusual formal language, which initially seemed inadequate for dance. With this, I want to fill

³ “Der Eleve soll neben der Pflege seiner geistigen und physischen Talente auch Gelegenheit erhalten, die Zusammenhänge seiner Kunst im rhythmischen und kulturellen Ganzen zu erfassen. Er soll sich nicht nur als Individuum, sondern als Teil des Kosmos und im Gesamtkunstwerke empfinden, und so erweist sich die Theorie der beiden leitenden Persönlichkeiten, R. von Labans und Mary Wigmans, als eine künstlerische Gemeinschafts- und Festspielidee von reichen und produktiven Möglichkeiten”. *Ibid.*, 55.

⁴ Anja Pawel, *Abstraktion und Ausdruck: Bildende Kunst und Tanz im frühen 20. Jahrhundert* (Berlin, Boston: De Gruyter, 2019).

⁵ Before him and after him there were dance reformers such as Loie Fuller, Isadora Duncan, Mary Wigman or Martha Graham, to name a few of them.

in a research gap still observable in secondary literature on the subject. Laban himself had such a big pool of inspirations that it is difficult to fully categorize his practice field. Although he came out as a choreographer, dancer and dance theorist, his influences were many-faceted and can be found in the fields of visual arts, architecture, mathematics and geometry, philosophy, pedagogy, theosophy and many more.

In order to emphasize his early and ongoing involvement with visual arts and his later evolution from there to dance, it is necessary to take a brief look at his biography: Laban was born in 1879 in Pressburg, in the Austro-Hungarian Empire (now Slovakia)⁶. He probably gained his early experience as a member of a traditional Hungarian Czárdás dance group. After joining and leaving the Theresian Military Academy, he went to Munich to study art. There he married his first wife Martha Fricke. He attended the art academy as well as art courses by Hermann Obrist and Wilhelm von Debschitz. In 1904, he moved to Paris with his wife, where they both studied art at the Ecole des Beaux Arts School of Architecture. They had two kids, but when Fricke died Laban left the children with her mother, moving back and forth between Vienna, Paris and Nice in a precarious financial situation. In 1910 he went to Munich with his new wife, a singer called Maya Lederer, and in 1911 he opened a dance school (a studio for dance and stage art) in Theresienstraße. In 1913 he lived in different houses in the city, registered as an “art painter” and maintained studios in various locations. That same year, as already mentioned, he also started the summer school in Monte Verità. In 1914 he decided to stay in Zurich due to the beginning of the First World War. He was only able to return to Germany in 1919. Between 1930 and 1934 he directed the ballet at the Prussian State Opera and was appointed director of the German Dance Theater by the Nationalsocialist in 1934. His consecration play for the opening of the Olympic Games, commissioned by the Nationalsocialists, was however not accepted by Joseph Goebbels and eventually canceled. Presumably as a consequence of this incident Laban emigrated to England in 1938, where he maintained a movement studio and continued his dance and movement studies. He died in 1958.

2. Gestalt theory of dance

Visual art was not the discipline in which Laban excelled. He was obviously more successful in dance. Nevertheless, he always understood both areas in creative dialogue with each other. Laban's impact on German *Ausdruckstanz* (expressive dance) was significant: He disseminated his work not only through schools, performances and festivals but also through his writings; in these, he developed his philosophical ideas on dance and culture. They have been little analyzed so far. For instance his book *Die Welt des Tänzers* (*The world of the dancer*), published in 1920, developed a theory of a dynamic form and dance practice. In it, Laban described different forms of artistic expression, such as drawing or dancing, as closely interrelated media. He further considered images or signs, as imbued with a dynamism that the observer attributes to them through his own renewed vitality (here, Laban underscores the mutual interaction between image and beholder).

In *Welt des Tänzers* it thus becomes clear that Laban considers a certain understanding of the visual arts and their aesthetic production, of forms and lines, symbols and picture making as essential for dance education. For him, the contours of objects or images symbolize tensions, embodied in those objects through their own form⁷. Even writing and drawing are, according to Laban, the abstract depiction of tensions⁸. When the dancer dances (or draws), the tensions of his or her movements are transmitted through the line traced with his or her body: “The dancer has transferred the ‘speaking’ power of his gesture to a line structure, by creating it similarly to the tensions at play in his gesture”⁹. Furthermore, for Laban, every form inherits the power

⁶ Compare to this biographical section: Karen K. Bradley, *Rudolf Laban* (London, New York: Routledge, 2009), 1–28; <https://www.munich-dance-histories.de/personen/rudolf-von-laban/>.

⁷ Rudolf Laban, *Die Welt des Tänzers: Fünf Gedankenreigen* (Stuttgart: Seifert, 1920), 26.

⁸ *Ibid.*

⁹ “Der Tänzer hat die ‘sprechende’ Macht seiner Gebärde auf ein Liniengefüge übertragen, indem er es den in seiner Gebärde wirkenden Spannungen ähnlich schuf.” Laban, *Die Welt des Tänzers*, 35.

of its production process. These formal “tensions” inhabit the objects, which, in turn, present themselves to the observer:

When the dancer writes down his movement in a line similar to its tensions, carves it into a stone, ties a knot similar to it, he leaves behind a permanent imprint of his fleeting excitement, which someone else can later decipher. An external symbol, a character, has been created”¹⁰.

Every kind of creative process of a human being therefore creates energies and tensions which are perceivable by the beholder in whatever artistic product is left. Even if an object appears only to evolve through motion and energy of the body, the observer automatically ascribes qualities to it: “Likewise, in objects that resemble certain human gestures in outline or in their formal tensions (conceptual gestures, emotional gestures or body gestures), we see symbols of the excitement inherent in these gestures”¹¹. Human perception and bodily movement are thus closely connected: “Long ago physiology ceased searching for the location of thought in a particular organ, e.g., the brain. [...] ‘Understanding’ is following an excitement, a force through a movement [...]”¹².

For Laban, dancing as well as drawing and writing are processes of perception and awareness that are unified because they are all based on bodily movement. Starting from this approach, he arrived at a symbiosis of *Gestaltung* and dance without neglecting their tactile qualities. Drawing, writing, building and working with models and sculpture were crucial elements of his conception of a new dance and, as we have seen, he even taught his students the basics of visual art.

Due to his interest in visual arts, geometric structures were key in Laban’s research¹³. Similarly to the art theories of Wassily Kandinsky and Paul Klee, Laban connected geometric forms like wavy lines, angular lines, spirals, circles or arcs with certain human emotional or bodily-spatial conditions such as heaviness, vibration, motion, balance or tranquility¹⁴. Here, Laban also came very close to Theodor Lipps’ theory of empathy, who in his *Aesthetics* considered forms as dynamic: “Forms embody possibilities of movement. We empathize with them”¹⁵.

3. Thinking through models

Several drawings by Laban are certainly influenced by the projective geometry which had its revival among the theosophists of the 19th century and inspired abstract artists of the first half of 20th century like, for example, Theo van Doesburg. It is based on a less analytical and more sensory understanding of geometry. Among others, projective geometry is based on the idea that the space to which a geometric body tends is infinite and therefore becomes fluid. It adds movement to the original static form of geometry. The ways pace, motion and geometric forms are combined in this field must have inspired Laban. He used models and drawings of the five platonic solids, especially the icosahedron (a stereometric figure with twenty plains) to make his research visually and haptically palpable. The platonic solids enabled him to demonstrate dance

¹⁰ “Wenn der Tänzer seine Bewegung durch ein ihren Spannungen ähnliches Liniengebilde niederschreibt, in einen Stein ritzt, einen ihr ähnlichen Knoten bindet, so läßt er einen dauernden Abdruck seiner flüchtigen Erregung zurück, den ein anderer später wieder entziffern kann. Ein äußeres Symbol, Schriftzeichen, ist entstanden.” *Ibid.*

¹¹ “Ebenso sehen wir in Gegenständen, die im Umriß oder in ihren Formspannungen bestimmten menschlichen Gebärden (Begriffsgebärden, Gefühlsgebärden oder Körpergebärden) ähnlich sehen, Symbole der Erregung, die diesen Gebärden innewohnt”. *Ibid.*, 35.

¹² “Die Physiologie ist längst davon abgekommen, den Sitz des Denkens in einem bestimmten Organ, z. B. dem Gehirn, zu suchen. [...] ‘Verstehen’ ist im Grunde das Befolgen einer Erregung, einer Kraft, durch Bewegungen [...]”. *Ibid.*, 59.

¹³ *Ibid.*, 216-217.

¹⁴ *Ibid.*, 206-207; Régine Bonnefoit, *Die Linientheorien von Paul Klee* (Petersberg: Imhof, 2009), 43-50 and 168-175.

¹⁵ “Formen drücken Bewegungsmöglichkeiten aus. Wir fühlen solche in sie ein.” From 1894 to 1914, Lipps held a chair in philosophy in Munich during the period Laban studied there. Theodor Lipps, *Ästhetik: Psychologie des Schönen in der Kunst. Erster Teil. Grundlegung der Ästhetik* (Leipzig: Verlag von Leopold Voss, 1923), 144.

movements visually by opening space for the dancers and representing the so-called *kinesphere*, a figure that combines all points that surround the human body and are accessible to it¹⁶. The *kinesphere* shows the possibilities of movement in space that are no longer taken for granted in a spatially restrictive, industrialized world¹⁷. It helps the dancer understand space through a geometrical form. Their symmetrical shape creates a multiperspective surrounding wherein the dancers could act. At the same time, it might have an influence on the dancer's different postures and movements. In Laban's work it generates an interface between architecture and the pictorial.

Laban built his platonic solids from light materials such as wood, paper or string. In this manner, he created tactile models with which he and his dancers could test the folding, construction, and statics of the stereometric solids, something that architects also do when they design buildings. At the same time, however, the models were envisioned as didactic instruments that enabled the experience of those reciprocal forces in space, of tension and counter-tension that act inside those models. A steady balancing gives stability to those fragile constructions of the platonic solids, as the dancer experiences the balance with his muscles and bones inside his or her body while dancing.

Yet although Laban used several different platonic solids to examine and explain the movements of the human body, photographs of his life-sized models mostly depict the icosahedron, perhaps because it provided the most adequate symbol for the possibilities the human body could enact in its surrounding space. Thus, the icosahedron became a symbol for the innovations in Laban's dance in the early 20th century. As it can be observed in a post-1938 drawing by him (Carol-Lynne Moore claims that similar ones existed already between 1912-18), the movements of the dancers are organized by the geometrically structured space while they simultaneously create a new space around them (fig. 2)¹⁸.

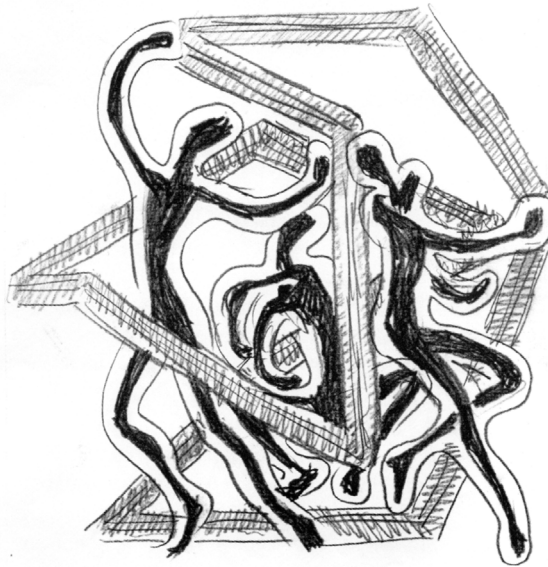


Figure 2. Rudolf Laban, "Three dancers in an icosahedron", after 1938, drawing, charcoal, University of Surrey, National Resource Centre for Dance, Laban Archive.

¹⁶ Kirsten Maar, "Zum Konzept der Kinesphäre bei Rudolf Laban, Richard Buckminster Fuller und William Forsythe," 2007. Last accessed July 16, 2025. http://www.transversale.org/beitrag/download/jb2_maar.pdf.

¹⁷ Cf. Dominik Mohs, *Kinästhetische Interferenzen: Körpertechnik und Tanznotation im Entwurfsprozess architektonischer Räume* (Bielefeld: 2021), 117-120. The general relationship between dance, notation and architecture has been discussed in this recent literature, and also in relation to Laban.

¹⁸ Sabine Huschka, *Merce Cunningham und der Moderne Tanz: Körperkonzepte, Choreographie und Tanzästhetik* (Würzburg: Königshausen und Neumann, 2000), 93.

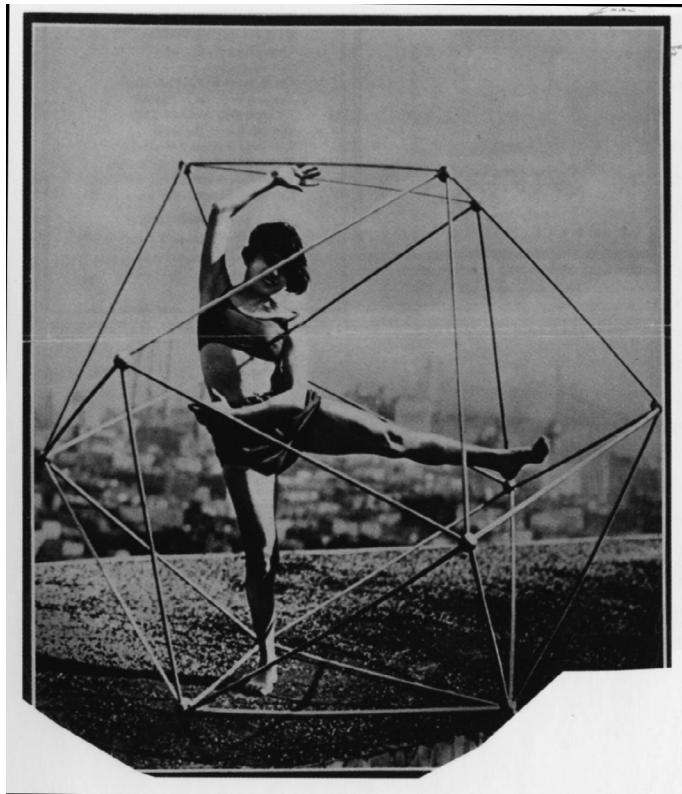
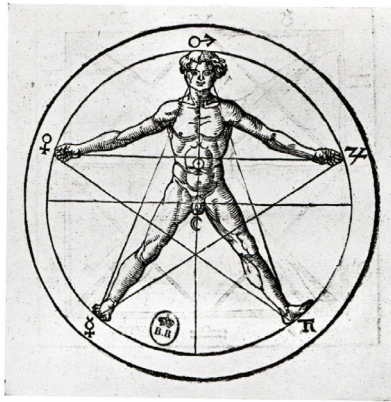


Figure 3. Rudolf Laban (?), Icosahedron dance, 1925, silvergelatine-print, 24,5 x 21 cm, Zürich, Bibliothek Kunsthaus Zürich.

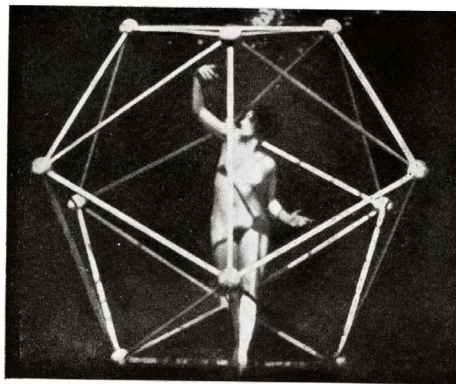
As already mentioned, the use of life-size models enabled the dancers to perform movements precisely and to use the space in its entirety. This is documented by photographs that show dancers posing inside of an icosahedron (fig. 3). Nevertheless, the combination of the dancer in motion and a geometric framework surrounding her is peculiar, since the icosahedron framework looks more like a limiting than like an opening space. One of Rudolf Laban's contemporaries, the well-known American dance reformer Isadora Duncan, had already strictly abandoned classical ballet and aimed towards new possibilities of movement. However, the new dance lacked a rigorous method and structure and therefore required orientation as well as organization. Laban tried to provide this by the icosahedron, as Wigman described it: "The ballet dancer of that time was not fit for the dance Laban envisioned. The modern dancer had not yet come into being. Laban had to build up the new instrument by himself and the means of doing so"¹⁹. Even if, from today's vantage point, this training method does not seem to be less static than the classic technique of ballet, it was indeed used to mark the difference between modern dance and ballet as the central perspective was rejected. Classical dance was traditionally directed towards the king, while modern dance was a multiperspective dance with no spatial focus constraining it. The icosahedron can be understood as a symbol for overcoming this construction.

Yet the dance movement did not collapse into the chaos of its many possibilities; rather, it gained a new structure with the icosahedron as its operative model. It modified the thinking of its operators and enabled the revolutionary transition from the central perspective of ballet to the multiperspective of modern dance.

¹⁹ "[...] Der Ballett-Tänzer war nicht für den Tanz geeignet, der Laban vorschwebte. Der moderne Tänzer war ja noch nicht geboren. Laban mußte dieses neue Instrument selbst aufbauen und suchte dazu die Möglichkeiten." Walter Sorell, *Mary Wigman. Ein Vermächtnis* (Wilhelmshaven: Noetzel, 1986), 28.



A. — L'HOMME-MICROCOSME D'APRÈS AGRIPPA DE NETTESHEIM.



B. — L'ICOSAÈDRE DIRECTEUR DANS L'ENSEIGNEMENT CHORÉGRAPHIQUE DE R. VON LABAN.

(Extrait de la Chorégraphie de R. von Laban, E. Diedrichs, éd.)

Figure 4. Agrippa von Nettesheim's: human in the microcosm and photograph of a dancer of the Laban school in the icosahedron, from: Mathila Ghyka: "Le nombre d'or. Rites et rythmes pythagoriciens dans le développement de la civilisation occidentale", 1931, Plate XVIII.

Laban may have derived his wide-ranging analysis of the human body's surroundings and its geometric construction based on proportion from his studies of art, art history, and architecture, from works such as those of Vitruvius, Albrecht Dürer and Leonardo²⁰. But Wenzel Jamnitzer and his *Perspectiva Corporum Regularium* (1568) could have also served Laban in the development of his three-dimensional depiction of the platonic solids, as they embodied the bodily perception of the beholder in the two-dimensional surface of the picture. In 1931, the Romanian author Mathila Ghyka took up this connection when he published a photograph of a Laban-school dancer inside the icosahedron in his book *Le nombre d'or. Rites et rythmes pythagoriciens dans le développement de la civilisation occidentale* and combined the photograph with Agrippa von Nettesheim's image of a man in the microcosm (fig. 4). But what has still not been mentioned by research on this comparison is that Nettesheim's figure is flat, with arms and legs outstretched on a disk, while the Laban-dancer is shown three-dimensionally and in motion: she is turning her head to the side, arms spread in different directions, to the front and to the back. She implies a dynamic notion of the geometric structure wherein the body has a multitude of possibilities for moving in space. This juxtaposition also demonstrates that Laban understood the embeddedness of the human being in the cosmos from a new point of view. The static character of previous theories of proportions

²⁰ Carol-Lynne Moore, *The Harmonic Structure of Movement, Music, and Dance: According to Rudolf von Laban* (Lewiston, Queenston/Lampeter: Edwin Mellen Press, 2009), 63-69.

became obsolete, and two-dimensionality was transformed into three-dimensionality as Laban combined the human body with its multiperspective spatial conception. The visual aspect of the model, which was first communicated via iconographic material (Nettesheim, Dürer), is translated here into a new spatial perception of modern dance and is thus also adapted to contemporary tastes. Although not as static as Dürer and Nettesheim, the dancer initially seems to be surrounded by a seemingly immobile framework. It is to Laban's credit, however, that the dance does not remain in this static architectural framework, but can fully exploit its possibilities for variability, spatial perception and dynamic movement. Laban's aforementioned term *kinesphere* brings together the spatial and pictorial aspects of motion.

4. Living architecture

According to Wigman, a dancer is an architect who forms an (invisible) shape in space with his or her body out of geometrical forms:

Invisibly spread all over the floor, perceivable by the dancer's soul, lie forms, lines. They build themselves up crystal-like. Invisible palaces of swings. Every movement of the dancer becomes a building block of architecture in motion. From the marriage of body and space emerges the straight line, the circle, the eight, the triangle, the square and the pentagon, superimposed on each other, intersecting, penetrating each other, as a sphere, pyramid, cube experienced in three dimensions²¹.

Wigman characterizes architecture as emerging from motion and dance as architecture in motion. This observation goes to the heart of this paper's argument since my main thesis is to bring together both media in their productive intermedial and interdiscipline constellations. Laban himself called the movement of dance a "living architecture"²². Both dancers supported the assumption that moving bodies write lines in space, so-called "moving scales" (*Schwungskalen*) that form an (invisible) shape in space.²³ Again dance and its visibility through (mostly) geometric forms are closely connected here.

Laban's sketches from 1938 illustrate how a dancer could structure the space that surrounds her/him (fig. 5 a-c): sixteen dancing stick figures are encased in pentagonal shapes, with arms, legs, and head marking the corner points. When the posture of the dancer changes, the shape of the pentagon changes as well. In these sketches, Laban examines the multitude of poses a dancer can strike. The dancer becomes a designer, a draughtsman of space, while the framework of lines structures the movement.

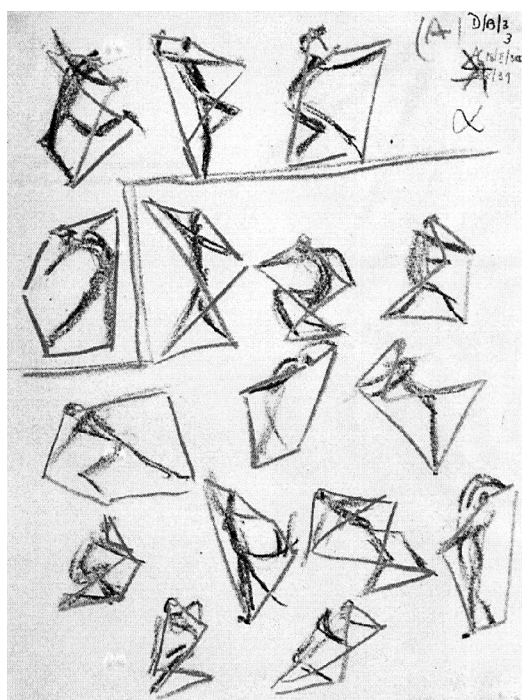
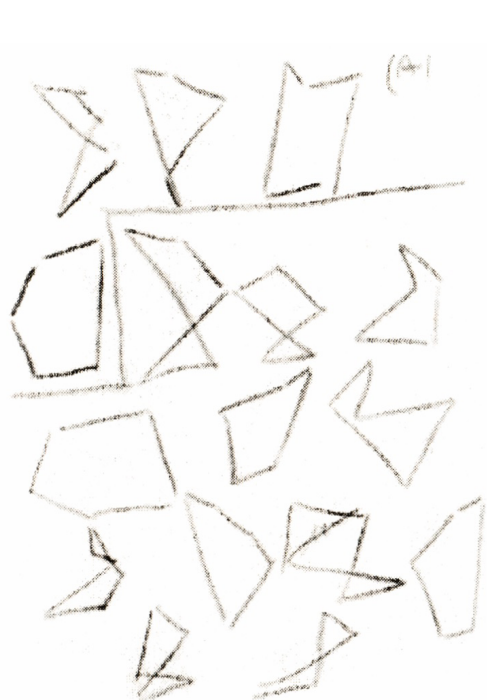
As far as his use of drawings is concerned, Paola Crespi sees Laban in a tradition with the philosopher Charles Sanders Peirce : Laban made "extensive use of drawings and diagrams to elucidate and to think through his theories on body, movement and space", she proposes²⁴.

²¹ "Unsichtbar über den Boden gebreitet, der Tänzerseele fühlbar, liegen Formen, Linien. Sie bauen sich kristallinisch empor. Unsichtbare Paläste aus Schwüngen. Jede Bewegung des Tänzers wird zum Baustein der bewegten Architektur. Aus der Vermählung von Körper und Raum entsteht: die gerade Linie, der Kreis, die Acht, das Drei-, Vier- und Fünfeck übereinander gelagert, sich kreuzend, einander durchdringend, als Kugel, Pyramide, Kubus, dreidimensional erlebt." Pia Witzmann, "Dem Kosmos zu gehört der Tanzende' – Der Einfluss des Okkulten auf den Tanz," in *Okkultismus und Avantgarde. Von Munch bis Mondrian. 1900-1915*, ed. by Bernd Apke et al., 600-645 (Ostfildern: Ed. Tertium, 1995), 617; cf. Mariama Diagne, "Kosmische und imaginäre Räume bei Rudolf von Laban und Mary Wigman," in *Ohne Ekstase kein Tanz! Tanzdarstellungen der Moderne. Vom Varieté zur Bauhausbühne*, ed. by Christine Eckett (Hannover: Sprengel-Museum, 2011), 48-54; cf. Susanne Stacher, *Sublime Visionen. Architektur in den Alpen* (Basel: Birkhäuser, 2018).

²² Rudolf Laban, *Choreutik: Grundlagen der Raumharmonielehre* (Wilhelmshaven: Noetzel, 1991 [1938]), 14.

²³ Sabine Huschka, *Merce Cunningham und der Moderne Tanz: Körperkonzepte, Choreographie und Tanzästhetik* (Würzburg: Königshausen und Neumann, 2000), 87; Mark Franko, "Danced Abstraction: Rudolf von Laban" and "Danced Abstraction: Mary Wigman," in *Inventing Abstraction. 1910–1925. How a Radical Idea Changed Modern Art*, ed. Leah Dickerman and Matthew Affron, 292-299 (New York: Museum of Modern Art, 2012).

²⁴ Paola Crespi, "Rudolf Laban's Diagrammatics: Moving Structures for Movement-Thinking", *Performance Research* 27, no. 8 (2022): 108-16; cf. Franz Engel, Moritz Queisner und Tullio Viola (ed.), *Das bildnerische Denken: Charles S. Peirce* (Berlin, Akademie Verlag, 2012).



Figures 5a-c. Rudolf Laban, three drawings with dancers and pentagonal shapes, after 1938. University of Surrey, National Resource Center for Dance, Rudolf Laban Archive.

Crespi calls Laban's graphics "diagrammatic" as they visualized processes and were therefore moving, organizing, and operative representations. The drawings offered him a welcome intermediate step between science and art, just as his new dance theory (including its language, form and art) required a scientific foundation. The kinetic and haptic dimension of the diagram in Laban's work creates a hybrid form of the notational, the intellectual and the aesthetic.

Also in the sense of Wigman's quote, Laban's drawing *Group Movement* depicts a crystal formation that builds a network of planes and overlapping lines in light and dark shades (fig. 6). A dance scene is depicted as an abstract form. The traces of the dancers' movements are given the form of crystal formations on the sheet. But no dancer is seen anymore. All that remains is an abstract composition.

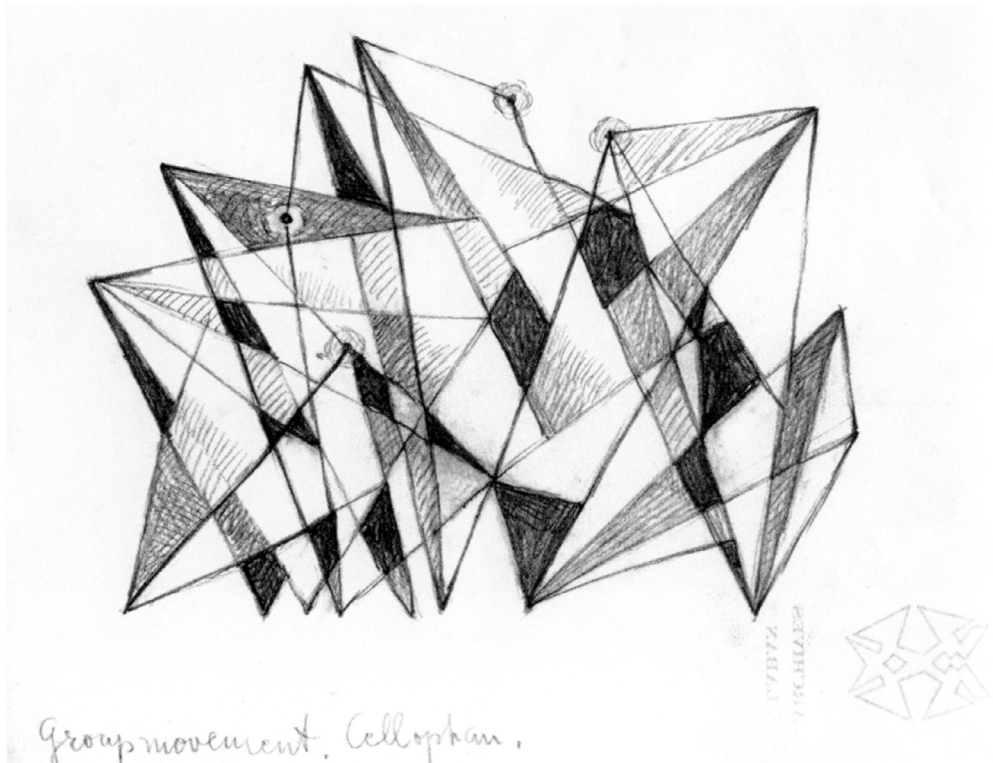


Figure 6. Rudolf Laban, "Groupmovement", Dartington Hall, 1938/39, drawing, pencil, University of Surrey, National Resource Center for Dance, Laban Archive.

For Laban, the crystal symbolized a form-giving agent: "It is always the form, the spatial tension, that speaks to us. Every tension is an invisible crystal, building itself from according to fixed formal laws of form"²⁵. His fascination with the crystalline in all its facets derived from its dual nature as an organically generated form that nevertheless consisted of geometric structures, hence having similarities with platonic solids²⁶.

²⁵ "Immer ist es die Form, die Raumspannung, die zu uns spricht. Jede Spannung ist ein unsichtbarer Kristall. Sie baut sich nach feststehenden Formgesetzen auf." Laban, *Die Welt des Tänzers*, 31; cf. Witzmann, "Dem Kosmos zu," 614; Evelyn Dörr, "Kristall-Denken: Über den geistig-philosophischen Hintergrund des choreographischen Werks von Rudolf Laban," *Tanzdrama* 48 (1999): 14-19.

²⁶ This was also documented by German natural scientist Ernst Haeckel, *Kristallseelen. Studien über das anorganische Leben* (Leipzig: Alfred Kroner, 1917), 84-85; Olaf Breidbach, "Anschauliche Naturordnungen – Bemerkungen zu Ernst Haeckels Studien über die Kristallseelen," in *Lebendiger Kristall. Die Kristallfotografie der Neuen Sachlichkeit zwischen Ästhetik, Weltanschauung und Wissenschaft* (Ostfildern-Ruit: Hatje Cantz, 2004), 25-33. Laban was aware of Haeckel's studies: Evelyn Dörr, *Rudolf Laban. Die Schrift des Tänzers. Ein Porträt* (Norderstedt: Books on Demand, 2005), 108.

In dance, according to Laban's book *Welt des Tänzers* (*World of Dancers*), the body becomes a "crystal of gestures" (*Gebärdenkristall*)²⁷. The crystal symbolizes vitality, power and energy and, therefore, represents the movement of dance. Those qualities also constitute the ideal conception of expressionistic architecture. Laban contends: "He (the dancer) knows the reason why flaming colours, powerful words, and sharp gestures flare up for the Expressionists as the essence of appearance. They are crystalline tensions [...]"²⁸.

This quote by Laban reminds us of expressionist architects like Bruno Taut, who focused on light, dynamic constructions such as his "glass house" (1914), with its crystal-like dome (fig. 7).²⁹

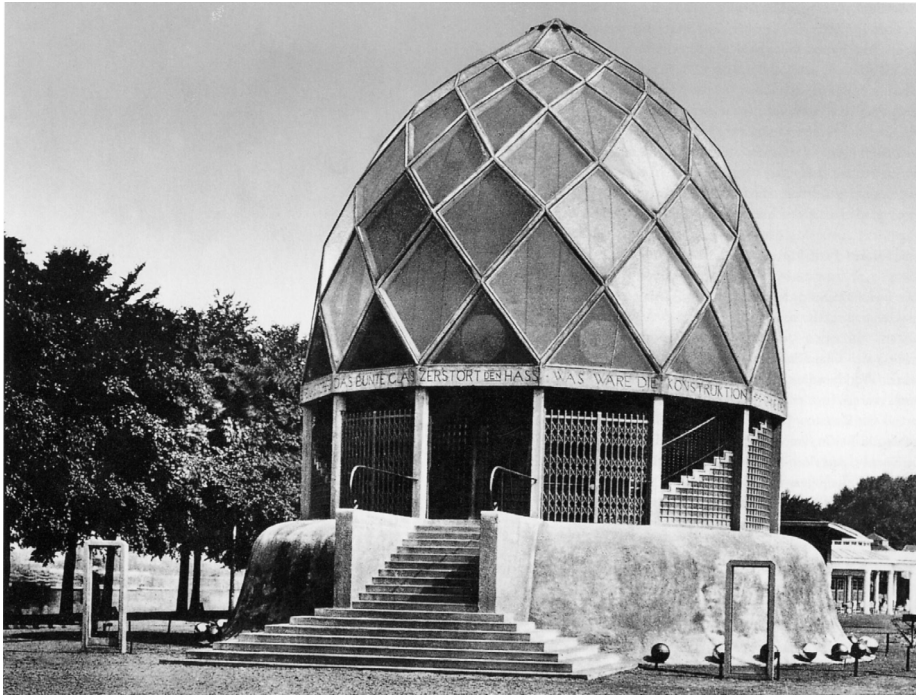


Figure 7. Bruno Taut, glass house, 1914, photograph, Köln, Nachrichtenamt der Stadt Köln.

For visitors standing beneath the dome, indoor and outdoor were combined through the transparent glass architecture³⁰. Reflections of light and sparkling fountains enlivened the interior³¹. With stairs circling around the round shapes of the building, combined with fountains' water running through the interior space, fluent movement became an essential part of architecture.

²⁷ Laban, *Die Welt des Tänzers*, 69.

²⁸ "Er (der Tänzer) kennt den Grund, warum den Expressionisten flammende Farben, schlagsichere Worte, scharfgerichtete Gesten als das Wesen der Erscheinung aufblitzen. Es sind die kristallinen Spannungen [...]" *Ibid.*, 159

²⁹ Angelika Thiekötter (ed.), *Kristallisationen, Splitterungen. Bruno Tauts Glashauss* (Basel: Birkhäuser, 1993), 26-27; cf. Regine Prange, *Das Kristalline als Kunstsymbol. Bruno Taut und Paul Klee* (Hildesheim, Zürich, New York: Olms, 1991); Ingrid Wernecke und Roland März (ed.), *Kristall – Metapher der Kunst. Geist und Natur von der Romantik zur Moderne* (Quedlinburg: Lyonel-Feininger-Galerie, 1997).

³⁰ Matthias Noell, "Bewegung in Zeit und Raum: Zum erweiterten Architekturbegriff im frühen 20. Jahrhundert," in *Raum – Dynamik: Beiträge zu einer Praxis des Raums*, ed. Franck Hofmann, Jens E. Sennewald, and Stavros Lazaris (Bielefeld: Transcript, 2004), 301-314, here 306; cf. John Stanislav Sadar, *Through the Healing Glass: Shaping the Modern Body through Glass Architecture, 1925–35* (New York, London: Routledge, 2016).

³¹ Henrik Leschonski, *Der Kristall als expressionistisches Symbol: Studien zur Symbolik des Kristallinen in Lyrik, Kunst und Architektur des Expressionismus (1910–1925)* (Frankfurt am Main et al.: Peter Lang, 2008), 181.

This was one of Taut's many visions: a "theatre in crystallized form", where dance performances also took place. He described this in a letter to Adolf Behne in 1916 in the following terms:

Imagine above the rooftops of the city [...] a colossal building, fissured and structured, on an artificial or already existing hill. It carries a sparkling, glorious construction of wonder, towering into the air. Rising above the city. The massive building brings together a folk-theatre and folk-opera, a music-, dance-, art- and lecture-space. All these are combined into a whole that, with arches, bridges and columns and (especially) magnificent stairs, supports the crystalline building [...]³².

As can be seen in Taut's architectonic drafts, his crystal cathedrals rise up above a wide landscape.

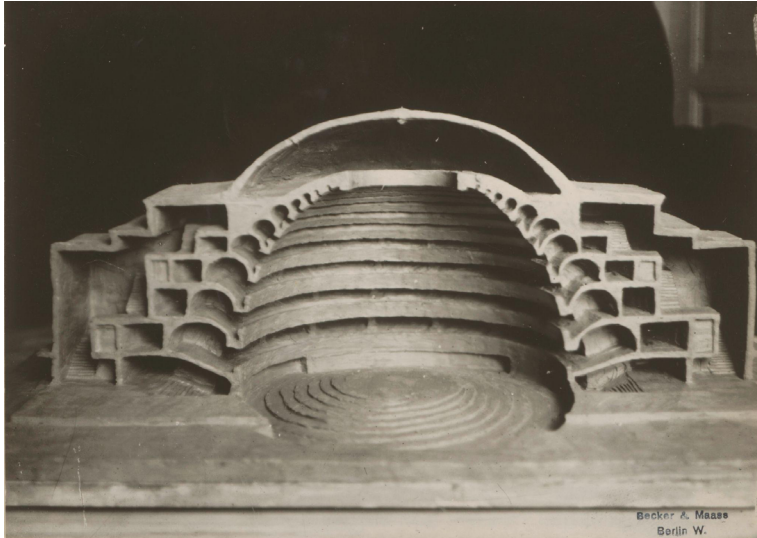


Figure 8. Choreografisches Institut Rudolf von Laban, model for a dance theatre, around 1927, photograph, Berlin, Staatliche Museen zu Berlin, Kunstbibliothek.

Taut's visions correlated with Laban's theatre projects (fig. 8). The latter aimed at creating a round stage, overarched by a dome, where spectators would be seated equidistantly around the stage to follow the events:

One of my favourite projects is a flat dome, where the spectators sit all around on the floor. The stage is in the middle of the room and only suitable for plastic dances that can be seen from all sides. In this theatre, all spectators are nearly the same distance from the performer. This is very important, because in our conventional theatres the subtlety of gesture gets lost with the increasing distance³³.

³² "Denke dir über den Dächern einer neuen Stadt [...] ein kolossales Baumassiv, zerklüftet und gegliedert, auf einer künstl. oder vorhandenen Anhöhe. Es trägt ein glitzerndes, die Luft greifendes herrliches Wundergebilde. Das ragt über die Stadt. Das Baumassiv setzt sich zusammen aus dem Volkstheater, —Oper, Musik- und Tanz-, Kunst- und Vortragsbau. Alles dies schließt sich in seiner Gesamtheit zusammen und trägt mit Strebewölbungen, Brücken und Pfeilern und (vor allem) herrlichen Treppen den Kristallbau [...]" Bruno Taut in a letter to Adolf Behne from 30th of March 1916, cited in Walter Scheiffele, *Das leichte Haus: Utopie und Realität der Membranarchitektur*, Edition Bauhaus 44 (Leipzig: Spector Books, 2015), 166.

³³ "Eines meiner Lieblingsprojekte ist eine flache Kuppel, in der die Zuschauer in Stockwerken rundherum sitzen. Die Bühne ist in der Mitte des Raumes und daher nur für plastische Tänze, die man von allen Seiten sehen kann, geeignet. In diesem Theater sind alle Zuschauer ungefähr gleich weit vom Darsteller entfernt. Das ist sehr wichtig, denn in unseren üblichen Theatern verliert sich die Feinheit der Geste mit der immer größer werdenden Entfernung." Rudolf Laban, *Ein Leben für den Tanz*, reprint of the original 1935 edition, ed. by Claude Perrotet (Bern: Paul Haupt, 1989), 200; compare Harald Szeemann (ed.), *Der Hang zum Gesamtkunstwerk: Europäische Utopien seit 1800* (Aarau: Sauerländer, 1983), 342.

Those architectural innovations were inspired by a concept of dance that, from the start, was multiperspectival like a sculpture, and which Laban described as “plastic dance” (“plastischer Tanz”). Again, unlike ballet, which was focused on a central perspective oriented toward the front (symbolically toward the king), a plastic dance offered many directions in which a dancer could turn.

In other sketches Laban constructed a dome, similar to Taut's crystal theatre; it had a crystalline shape based on the model of a polyhedron (figs. 9 and 10). This reflected many architectural designs and buildings of the time, including, for example, Rudolf Steiner's Goetheanum in Dornach, Switzerland, which opened in 1920. But architects also considered multiperspectivity a new approach to space. The model for this came from, among other influences such as the spiral shape, the icosahedron, which found its counterpart in the crystal. It was ultimately the model for a crystalline dome. They provided the patterns for a dynamic round building covered by a dome. Many round-, or spiral-shaped theatres can be found during the 1920s, which not only promised multiple perspectives, but also inherited mechanical elements that tried to part embed the spectator into the performative processes of theatre and dance.³⁴

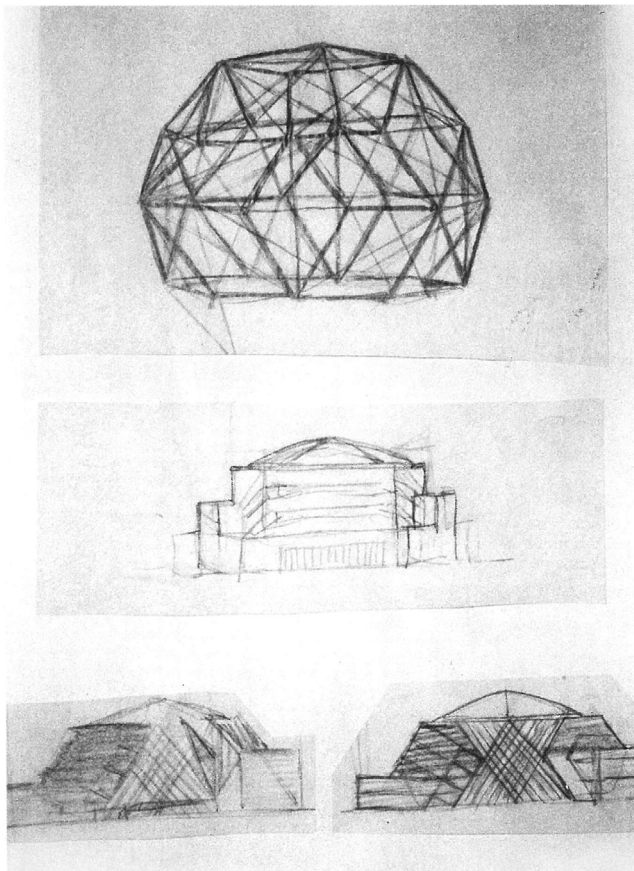


Figure 9. Rudolf Laban, Sketch for a theatre, o. D., drawing, University of Surrey, National Resource Center for Dance, Laban Archive.

³⁴ Like, for example László Moholy-Nagy's "Kinetic Constructive System" (Kinetisch konstruktives System) (1922–1928), István Sebök's "Dance Theatre" (Tanztheater) (1926–1928), Andor Weiniger's "Sphere Theatre" (Kugeltheater) (1926–1927), Walter Gropius' and Erwin Piscator's "Total Theatre" (Totaltheater) (1927) and Friedrich Kiesler's "Endless Theatre" (Endloses Theater) (1924–1926).

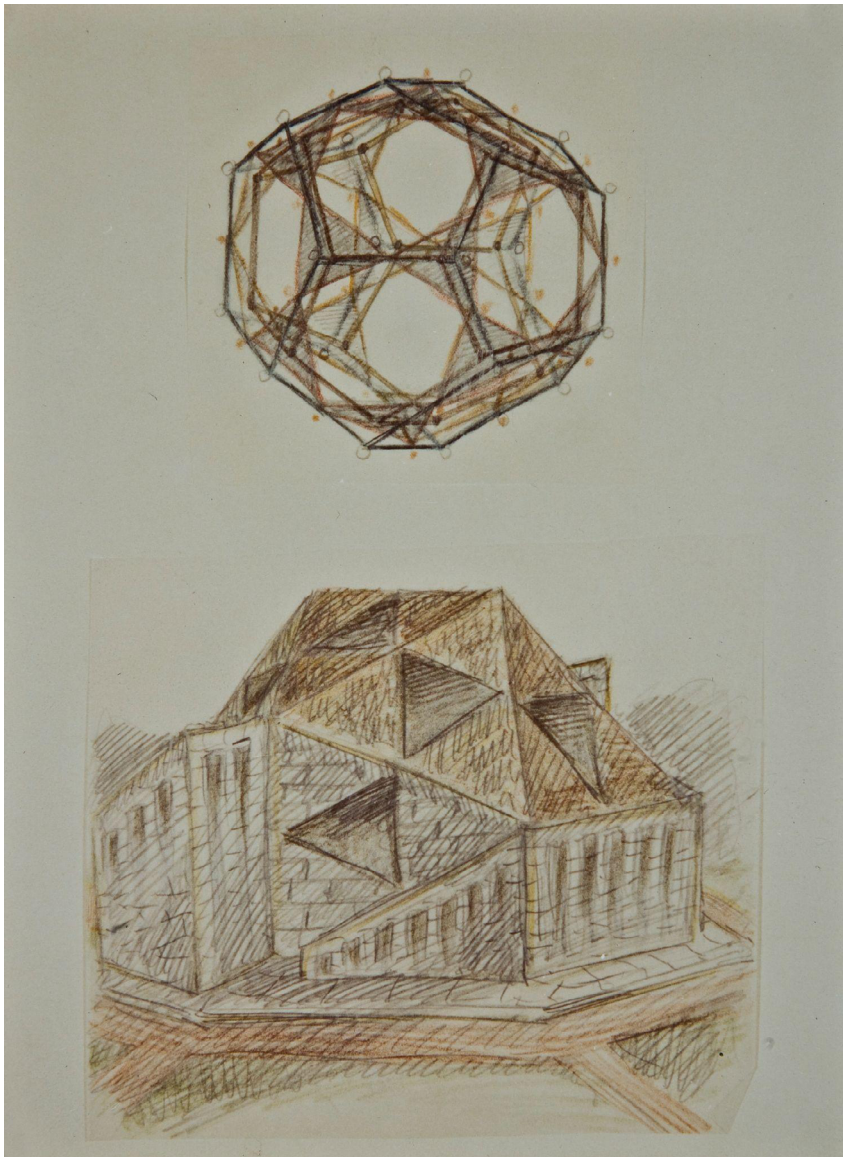


Figure 10. Rudolf Laban, sketch for a theatre, o. D., drawing, London, Trinity Laban Conservatoire of Music and Dance, Laban Archive.

As mentioned above, Wigman and Laban understood choreography as an architecture of movement³⁵, in which the moving body was creating shapes in space. Likewise, in an architectural construction, the dancer, through his/her movement, created a balance of every single limb like an architect constructing a building³⁶.

The parallel between the choreographer's geometric organization of group dances and the architect's constructions was also articulated by the German writer Fritz Winther. In his 1923 book *Der heilige Tanz*, Winther observed:

³⁵ Sabine Huschka, "Die Architektonik der Bewegung: Raum, Körper und Wahrnehmung im Tanz," in ed. Susanne Hauser and Julia Weber, 345-77 (Bielefeld: Transcript, 2015), 355.

³⁶ Moore, *Architektur in transdisziplinärer Perspektive: Von Philosophie bis Tanz*, 115.

The dance-master, the one who organizes group dances, is like an architect. The layouts of some buildings are the same as the choreographic lines of certain group dances, the most varied geometrical figures –simple floor plans– are danced in groups, triangle, square, circle, even the floor plan of a gothic cathedral often has lines and proportions that can be translated into dance³⁷.

As early as 1886, Heinrich Wölfflin indicated the crucial role that the bodily experience played in his perception of architecture (and its geometric forms): “To understand the spatial building aesthetically, we have to experience this movement sensually, and participate with our bodily organization”³⁸.

This innovative approach to space pursued by Laban and Wigman notably impressed the architect Friedrich Kiesler, who was mostly concerned with theatre:

There was at one time a new start. I mean the exploration of space by Mary Wigman, based on the principles of her teacher Laban. Yes, it was a break-through. I remember very well the impression her choreography made on me and the discussion we had about it. Her aim at the time was to define space deliberately, no matter how big or small, to involve the on-looking audience with space-time. That seemed a very legitimate contemporary approach to the dance. There are, of course, varied ways to do that. Personally I have not yet seen any dance group here or abroad which was able to develop it further and thus set new basic standards³⁹.

Kiesler's spiral-shaped stage design emanated from this new approach to perspective that expanded the space for both actors and spectators into a new dimension. He understood architecture as a living organism interacting with the movement of its visitors⁴⁰. His round spiral stage, where the actors could be seen from all directions, correlated with the transformation from the central-perspective in classical ballet to the multi-perspective of modern dance⁴¹. When Kiesler talked about ‘space-time’ in the dance of Wigman and Laban, he certainly meant the fourth dimension that has had a great impact on artists since the late 19th century⁴². The time factor was added to the third dimension (space) and became a fourth (space-time). Space was conceived as temporally organized and dynamic as well as processual, and was therefore related to the already mentioned field of projective geometry.

5. Laban and Fuller

Similar to Laban, but some decades later, the architect Richard Buckminster Fuller took up this dynamic experience of space through polyedric constructions with his so-called tensegrity structures: these encompassed a self-supporting framework composed of sticks and rubber-connections, which was inspired by platonic solids. This example shows again in particular the

³⁷ “Im Tanz-Kapellmeister, in dem, der Gruppentänze organisiert, ist etwas vom Architekten. Die Grundrisse mancher Architekturen sind dieselben, wie die choreographischen Linien von manchen Gruppentänzen, die verschiedensten geometrischen Figuren –einfache Grundrisse– werden in Gruppen getanzt, Dreieck, Viereck, Kreis, auch der Grundriß einer gotischen Kirche hat oft Linien und Proportionen, die sich übersetzen lassen in Tanz.” Fritz Winther, *Der heilige Tanz* (Rudolstadt: Greifenverlag, 1923), 85.

³⁸ “Um das räumliche Gebilde ästhetisch zu verstehen, müssen wir diese Bewegung sinnlich miterleben, mit unserer körperlichen Organisation mitmachen.” Heinrich Wölfflin, *Prolegomena zu einer Psychologie der Architektur* (1886; Berlin: Gebr. Mann Verlag, 1999), 11.

³⁹ Frederick Kiesler, “Dance Script,” in *Inside the Endless House: Art, People and Architecture: A Journal*, ed. By Frederick Kiesler (New York: Simon and Schuster, 1966), 384–401, here 392–93; Maria Auxiliadora Gálvez Pérez, “Raumnotierungen: Dynamische Kristallographien in Architektur und Tanz,” in *Frederick Kiesler. Theatervisionär – Architekt – Künstler*, ed. by Barbara Lesák and Thomas Trabitsch, 149–64 (Wien: Brandstätter, 2012), 149.

⁴⁰ Gálvez Pérez, *Raumnotierungen*, 152.

⁴¹ *Ibid.*, 149; Huschka, *Die Architektonik der Bewegung*, 357.

⁴² Cf. Eckhard Siepmann, *Ereignis Raumzeit. Physik, Avantgarden, Werkbund. Ein Traktat* (Delmenhorst/Berlin: Aschenbeck & Holstein, 2007); Linda Dalrymple Henderson, *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (Cambridge; Princeton, NJ: Princeton University Press, 2013).

visual connection between a dancer and choreographer and an architect/artist, as it includes every moment of visual interaction that has been mentioned so far: thinking with drawings and models, the icosahedron, the role of multi-perspectivity, dynamism, motion and the accompanying impression of modernity, like the dome. Fuller extended his expertise through dance as Laban extended his through visual art and architecture.

Based on the platonic solids, Fuller designed flexible structures as models to fulfill the needs of a modern world. His model of the so-called *Jitterbug Transformation* (discovered in 1948), for example, was a framework whose flexible joints were able to transform it into different platonic solids. It was, therefore, a construction in a constant flow and motion⁴³. A model that helped Fuller to think and understand the geometric structures that could create lightweight buildings, just as the very similar models helped Laban and his dancers to understand and use creatively the space a human body is related to.

But Fuller also connected his model, based on platonic solids, with dance. He underlined its dynamic qualities by calling it “Jitterbug”, a modern ballroom dance, which had emerged in the 1940s in the United States and consisted of several movement-stages that the dancing couple passes through. For Fuller, these stages may have been equivalent to the several transformation stages his model runs through. While dancing, the couple is continuously moving its knees up and down and towards each other as if they are bound together through an invisible elastic band that keeps them in a steady dynamic interaction. During that movement, the lower body is turning into the opposite direction than the upper body. A similar rotation is needed by the “Jitterbug Transformation” to transform from one shape into the other. Through its light and movable construction, Fuller’s model dances by itself⁴⁴.

It has already been indicated that Fuller’s approach to mathematics was in part based on bodily experience or even dance⁴⁵: “What I have just discovered is that bebop has the same beat as the new mathematical shorthand I have been working on”⁴⁶. It may have been the rhythmic experience that linked both for Fuller. His daughter, a dancer, underlined the idea that his thinking was closely tied to bodily experience. According to her, a kinetic or even dance-based knowledge was convenient to understand his work: “His thinking was connected to his body. It was an integration of his body and his mind. This is what dance is as I have come to understand it. [...] It is the sense of the physicalization of idea that I see as so important in understanding and accessing my father’s work”⁴⁷. It is also documented that Fuller had a dance practice with Merce Cunningham.

In 1939 he even compared the technological progress in the industrial age with different types of dances, as it can be seen in a sketch (fig. 11)⁴⁸. Every break-through invention is related to a certain dance-form so that the observer can compare the characteristics of these, just as he himself links the Jitterbug dance with his invention of the model transforming the different stages of the platonic solids into a constant flow.

⁴³ Joachim Krausse and Claude Lichtenstein (ed.), *Your Private Sky: Diskurs R. Buckminster Fuller* (Baden: Müller, 2001), 24.

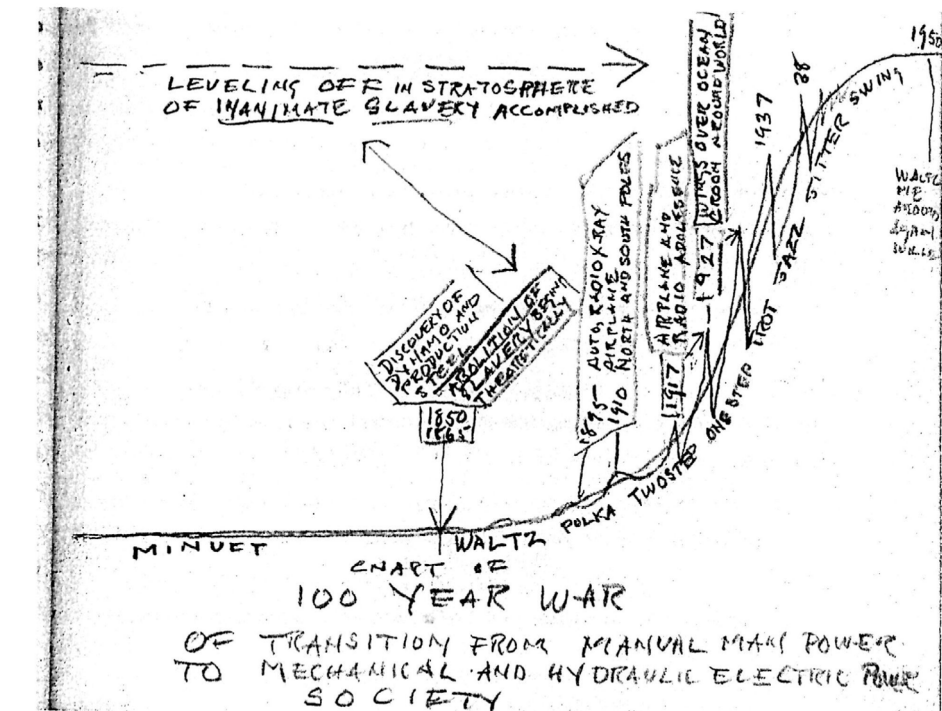
⁴⁴ Joachim Krausse, “Mechanischer Affe und Quantum Machine: Bau- und Bühnenlaboratorium – vom Bauhaus zum Black Mountain College,” in *Spuren der Avantgarde. Theatrum Machinarium. Frühe Neuzeit und Moderne im Kulturvergleich*, vol. 4, ed. by Helmar Schramm, Ludger Schwarte, and Jan Lazardzig, 407-44 (Berlin/New York: De Gruyter, 2008), 440.

⁴⁵ Joachim Krausse, “Das Zwinkern der Winkel,” in *Umzug ins Offene. Vier Versuche über den Raum*, ed. by Tom Fecht and Dietmar Kamper, 187-214 (Wien/New York: Springer, 2000), 204.

⁴⁶ Quoted in Peter Blake, *No Place Like Utopia: Modern Architecture and the Company We Kept* (New York: Knopf, 1993), 94; Krausse, “Das Zwinkern der Winkel,” 204.

⁴⁷ Allegra Fuller Snyder, *Experience and Experiencing* (1995), accessed July 16, 2025, <https://www.bfi.org/aboutfuller/biography/experience-and-experiencing>.

⁴⁸ Krausse and Lichtenstein, *Your Private Sky*, 25-27.



25 Synchronoptisches Diagramm der wissenschaftlichen Entwicklung 1850–1950, periodisiert nach zeittypischen Gesellschaftstänzen. «Tafel zum hundertjährigen Krieg des

Übergangs von Handarbeit zur mechanisierten und hydroelektrifizierten Gesellschaft.» Skizze aus RBFs unveröffentlichtem Manuskript «Ballistics of Civilization», 1939. BFA

Figure 11. Richard Buckminster Fuller, “Chart of 100 year war of transition from manual man power to mechanical and hydraulic electric power society”, sketch from his unpublished manuscript “Ballistics of Civilization”, 1939, Stanford, Buckminster Fuller Archive.

Just as Fuller did with his “Jitterbug Transformation”, Laban created his geometric dance models with the help of flexible jointed dolls. He mentioned those in a letter:

Already in my early youth [...] I tried to create geometric models of dancing figures. Most of these models were flexible, that is, their single parts were adjustable through joints. From the jointed manikin, which represented the human body and was known to me as a device for painters and sculptors, I started to connect the ends of the limbs in different positions with twine, which made it possible to represent the pathways of transitions from one posture to the other⁴⁹.

Based on these flexible dolls, whose limbs he controlled with strings, he created geometric line compositions such as the icosahedron. A precursor to Buckminster Fuller and his “Jitterbug Transformation”⁵⁰.

⁴⁹ Laban in a letter to the artist Paul Schatz from Dornach, Germany. Transl. by the author. “Ich habe schon in meiner frühen Jugend [...] versucht, geometrische Modelle von Tanzfiguren zu machen. Die meisten dieser Modelle waren beweglich, das heisst, ihre Teile waren verstellbar um Scharniere. Von der Gliederpuppe, die den menschlichen Körper darstellte und mir als ein Gerät der Maler und Bildhauer bekannt war, kam ich bald dazu die Enden der Gliedmaßen in verschiedenen Stellungen mit Fäden zu verbinden, wodurch die Wege der Übergänge von einer Stellung zur anderen dargestellt werden konnten.” Quoted in Paul Schatz, *Architektur und Umstülpung. Studien zum organisch-dynamischen Raumbewusstsein. Ein Schulungsweg für Architekten*, ed. by Matthias Mochner (Dornach: Verlag am Goetheanum, 2013), 74.

⁵⁰ Caspar Schwabe, “Eureka and Serendipity: The Rudolf von Laban Icosahedron and Buckminster Fuller’s Jitterbug,” *Bridges: Mathematics, Music, Art, Architecture, Culture* (2010), accessed July 16, 2025, <http://archive.bridgesmathart.org/2010/bridges2010-271.pdf>.

In a photograph made in the 1940s at Black Mountain College, a dancer moves inside a Fuller geodesic dome (fig. 12)⁵¹. While this is not exactly a model of an icosahedron, as Laban used it, the photograph nevertheless shows a spacious, light and airy construction. The structure of the platonic solids helps to construct this dome. The moving body of the dancer, exploring the space, is the best example to represent the qualities that characterized modern architecture for Fuller. At the same time, this image recalls the beginnings of modern dance with Laban and his icosahedron-model.



Figure 12. Dancer in Richard Buckminster Fuller's Necklace Dome, Black Mountain College, 1948-1949.

The polyhedric models were significant for Fullers work and he was often photographed with them (fig. 13). But Laban was also photographed with those models, which became characteristic of his work (fig. 14). He staged himself as a natural scientist rather than a dancer. Even though their fields were very different, both Laban and Fuller presented themselves with similar 'equipment' and similar approaches to solving different issues: their models, which built bridges between architecture and dance, were being intermedial in the truest sense of the word. Although the connection between Laban and Buckminster Fuller has already been examined by researchers, this aspect was previously unknown. It further confirms how their connections were built on their

⁵¹ Cf. Sigrid Pawelke, *Einflüsse der Bauhausbühne in den USA. Eine Untersuchung zur Verbindung von Bauhausbühne und amerikanischer Bühnen-Performance und Postmodern Dance unter ästhetischen und pädagogischen Aspekten* (Regensburg: Roderer, 2005); Eugen Blume et al. (ed.), *Black Mountain. Ein interdisziplinäres Experiment. 1933-1957* (Leipzig: Spector Books, 2015).

common ideas. It also reveals how Laban considered a light and flexible structure to construct a domed building specifically for dance events:

I would like to mention another fantasy project that is not only intended for very large group performances and elevators, but as a paradise of movement for all participants and spectators. This is the *Kilometerhaus*. A huge dome stretched directly over the landscape. The space was to be vaulted by an artificial canopy without any supporting pillars. I dreamed up the *Kilometerhaus* in my anxiety dreams when parades, open-air festivals and mass events threatened to be rained out in our merciless climate. Having acquired some knowledge as an architect and engineer over the years, I don't think the project is unfeasible. The dome must be supported by the widest possible chains in the manner of chain bridges. I believe that this idea will be realized later, when our new ways of life have found artistic form. Everyday leisure time as well as special celebrations in the *Kilometerhaus* could bring about an unexpected upswing in dance culture⁵².

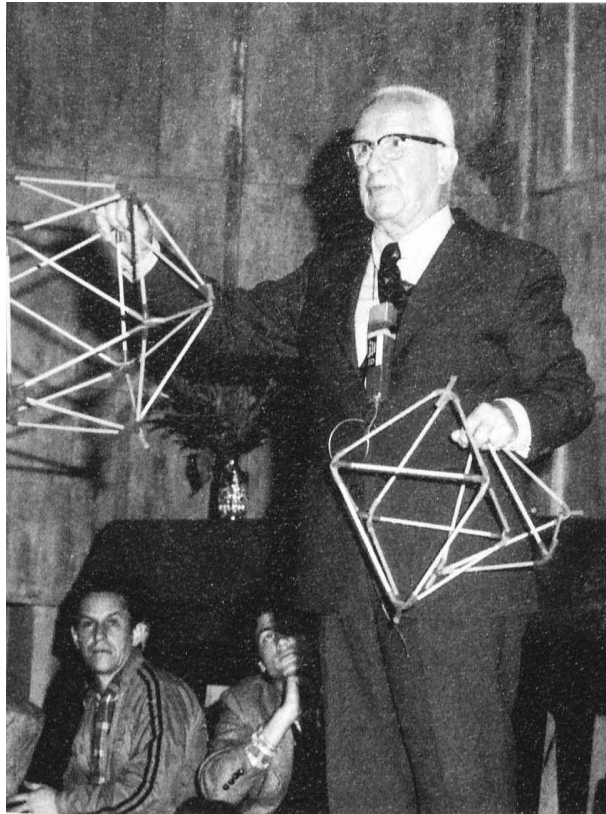


Figure 13. Richard Buckminster Fuller with the "Jitterbug Transformation" and guests in the "Richard Buckminster Fuller Institut für Leichtbau, Entwerfen und Konstruieren" of Stuttgart University, photograph.

⁵² "Ich erwähne hier noch ein Phantasieprojekt, das nicht nur für ganz große Gruppenaufführungen und Aufzüge gedacht ist, sondern als ein Bewegungsparadies für alle Mitwirkenden und Zuschauer. Das ist das Kilometerhaus. Eine riesige Kuppel direkt über die Landschaft gespannt. Der Raum sollte ganz ohne tragende Säulen von einem künstlichen Himmelszelt überwölbt sein. Das Kilometerhaus habe ich mir in meinen Angstträumen ausgedacht, wenn in unserem erbarmungslosen Klima Festzüge, Freilichtfeste und Massenveranstaltungen zu verregnen drohten. Da ich mir im Laufe der Zeit einige Kenntnisse als Architekt und Ingenieur angeeignet habe, halte ich das Projekt nicht für undurchführbar. Die Kuppel muß von möglichst weitgespannten Ketten in der Art von Kettenbrücken getragen werden. Ich glaube, daß diese Idee später einmal verwirklicht werden wird, wenn unsere neuen Lebensformen künstlerische Gestalt gefunden haben werden. Die alltägliche Freizeit könnte ebenso wie besondere Feste im Kilometerhaus einen ungeahnten Aufschwung tänzerischer Kultur mit sich bringen." Laban, *Ein Leben für den Tanz*, 200.



Figure 14. Rudolf Laban with a model of a polyeder in his studio at Dartington Hall, 1939, photograph, London, Trinity Laban Conservatoire of Music and Dance, Laban Archive.

The movement choirs, as Laban created them, needed an enormous amount of open space. Roofs for such a wide-open landscape could not be built at that time. Fuller had similar ideas some decades later and even realized them (fig. 15). It is as if, without necessarily knowing Fuller, Laban's initial dreams have come true. When rightly examined, Laban's and Fuller's dance and architecture do not seem to be so far apart from each other. But while Laban used the icosahedron to teach his students how to use space entirely and understand it as multiperspective, far away from the central perspective of ballet and even started an undertaking to build round, spacious, dance halls out of it, Fuller employed dance references to understand and examine dynamic geometric structures out of whom he actually created his lightweight, spacious buildings. Thinking with geometric models, envisioning lightweight, flexible architecture represented through domes spanning a huge area and practicing dance were their common basis on which they created their innovations.

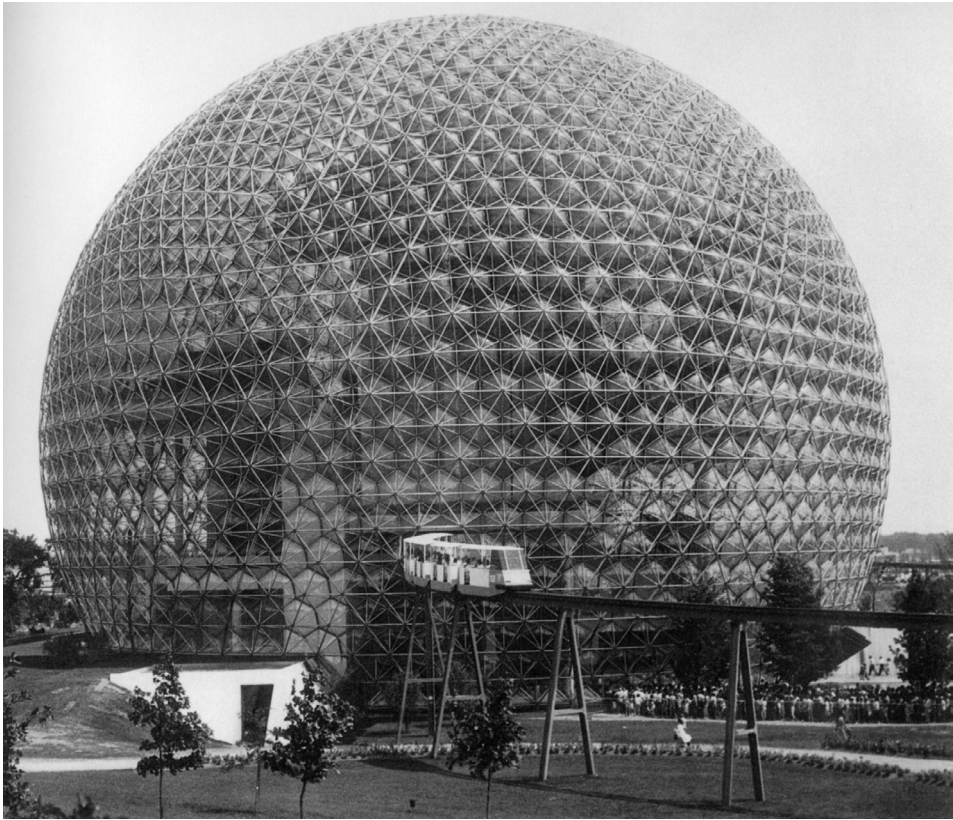


Figure 15. Richard Buckminster Fuller's pavilion for the United States, World Exposition. Montreal, Canada, 1967.

5. Conclusion

Laban's holistic approach to dance education allowed him to integrate various disciplines, particularly the visual arts. In this way, he promoted the universal dance education of his students. Models and drawings, especially the platonic solids, such as the icosahedron, helped them to grasp dance movements visually and spatially and, in contrast to ballet, to understand space from multiple perspectives. In this respect, Laban was acting as a classical modernist artist and architect. For him, dance was living architecture in which the body creates geometric forms in space through movement. His ideas were closely interwoven with architectural concepts, such as the design of circular stages and domes, which enabled multi-perspective views. Laban combined dance and visual arts to create an innovative formal language and a new understanding of space that laid the foundation for modern dance. His visions and experiments, such as the idea of the *Kilometerhaus*, show how he saw dance and architecture as interconnected media that together opened up new artistic possibilities. These insights into Laban's pictorial thinking, his knowledge of and interest in drawings, models and architecture and his handling of symbols, testify to the fact that *Ausdruckstanz*, as originally conceived by him, sought its role models in visual arts in order to open the space to new, modern dimensions; in this regard, ballet provided only a limited model. The new dance forms came with a completely new sense of space and formal languages.

As emphasized at the beginning of this article, Laban was a highly versatile theorist and practitioner; through his intermedial approach, he was able to accomplish his goals, bringing seemingly opposed forces and media into a fruitful interrelationship based upon his visual

understanding.⁵³ This intermedia dialogue defined the uniqueness and innovation of his work; it also laid the foundation for experimental creations by artists like Merce Cunningham, Trisha Brown or William Forsythe who kept combining art, architecture and dance well into the 21st century.

6. Conflict of interests

None

7. References

- Anthrowiki. "Projektive Geometrie." Last accessed July 16, 2025. https://anthrowiki.at/Projektive_Geometrie#:~:text=Rudolf%20Steiner%20hat%20auf%20die,der%20unmittelbaren%20geometrischen%20Anschauung%20entferne.
- Ball, Hugo. *Der Künstler und die Zeitkrankheit: Ausgewählte Schriften*. Edited by Hans Burkhard Schlichting. Frankfurt am Main: Suhrkamp, 1984.
- Blake, Peter. *No Place Like Utopia: Modern Architecture and the Company We Kept*. New York: Knopf, 1993.
- Blume, Eugen, Matilda Felix, Gabriele Knapstein, and Catherine Nichols (ed.). *Black Mountain: Ein interdisziplinäres Experiment 1933-1957*. Exhibition catalogue of the Nationalgalerie at Hamburger Bahnhof – Museum für Gegenwart – Berlin, June 5 to September 27, 2015. Leipzig: Spector Books, 2015.
- Bonnefoit, Régine. *Die Linientheorien von Paul Klee*. Petersberg: Imhof, 2009.
- Bradley, Karen K. *Rudolf Laban*. London/New York: Routledge, 2009.
- Breibach, Olaf. "Anschauliche Naturordnungen – Bemerkungen zu Ernst Haeckels Studien über die Kristallseelen." In *Lebendiger Kristall. Die Kristallfotografie der Neuen Sachlichkeit zwischen Ästhetik, Weltanschauung und Wissenschaft*, 25-33. Ostfildern-Ruit: Hatje Cantz, 2004.
- Crespi, Paola. "Rudolf Laban's Diagrammatics: Moving Structures for Movement-Thinking." *Performance Research* 27, no. 8 (2022): 108-16.
- Dalrymple Henderson, Linda. *The Fourth Dimension and Non-Euclidean Geometry in Modern Art*. Cambridge/Princeton, NJ: Princeton University Press, 2013.
- Diagne, Mariama. "Kosmische und imaginäre Räume bei Rudolf von Laban und Mary Wigman." In *'Ohne Ekstase kein Tanz!' Tanzdarstellungen der Moderne. Vom Varieté zur Bauhausbühne*, edited by Christine Eckett, 48-54. Hannover: Sprengel-Museum, 2011.
- Dörr, Evelyn. "Kristall-Denken: Über den geistig-philosophischen Hintergrund des choreographischen Werks von Rudolf Laban." *Tanzdrama* 48 (1999): 14-19.
- Dörr, Evelyn. *Rudolf Laban. Die Schrift des Tänzers. Ein Porträt*. Norderstedt: Books on Demand, 2005.
- Engel, Franz, Moritz Queisner, and Tullio Viola (ed.). *Das bildnerische Denken: Charles S. Peirce*. Berlin/: Akademie Verlag, 2012.
- Franko, Mark. "Danced Abstraction: Rudolf von Laban" and "Danced Abstraction: Mary Wigman." In *Inventing Abstraction. 1910-1925. How a Radical Idea Changed Modern Art*, edited by Leah Dickerman and Matthew Affron, 292-299. New York: Museum of Modern Art, 2012.
- Gálvez Pérez, Maria Auxiliadora. "Raumnotierungen: Dynamische Kristallographien in Architektur und Tanz." In *Frederick Kiesler. Theatervisionär – Architekt – Künstler*, edited by Barbara Leśák and Thomas Trabitsch, 149-164. Wien: Brandstätter, 2012.
- Haeckel, Ernst. *Kristallseelen. Studien über das anorganische Leben*. Leipzig: Alfred Kroner, 1917.
- Hofmann, Franck, Jens E. Sennewald, and Stavros Lazaris (ed.). *Raum – Dynamik: Beiträge zu einer Praxis des Raums*. Bielefeld: Transcript, 2004.
- Huschka, Sabine. *Merce Cunningham und der Moderne Tanz: Körperkonzepte, Choreographie und Tanzästhetik*. Würzburg: Königshausen und Neumann, 2000.
- Huschka, Sabine. "Die Architektonik der Bewegung: Raum, Körper und Wahrnehmung im Tanz." In *Architektur in transdisziplinärer Perspektive: Von Philosophie bis Tanz*, edited by Susanne Hauser and Julia Weber, 345-77. Bielefeld: Transcript, 2015.

⁵³ I would like to thank Robin Greeley and Michael Orwicz for their critical reading of this text.

- Kiesler, Frederick. "Dance Script." In *Inside the Endless House: Art, People and Architecture: A Journal*, edited by Frederick Kiesler, 384-401. New York: Simon and Schuster, 1966.
- Krausse, Joachim. "Das Zwickern der Winkel." In *Umzug ins Offene. Vier Versuche über den Raum*, edited by Tom Fecht and Dietmar Kamper, 187-214. Wien/New York: Springer, 2000.
- Krausse, Joachim. "Mechanischer Affe und Quantum Machine: Bau- und Bühnenlaboratorium – vom Bauhaus zum Black Mountain College." In *Spuren der Avantgarde. Theatrum Machinarium. Frühe Neuzeit und Moderne im Kulturvergleich*, Vol. 4, edited by Helmar Schramm, Ludger Schwarte, and Jan Lazardzig, 407-44. Berlin/New York: De Gruyter, 2008.
- Krausse, Joachim, and Claude Lichtenstein (ed.). *Your Private Sky: Diskurs R. Buckminster Fuller*. Baden: Müller, 2001.
- Laban, Rudolf. *Choreutik: Grundlagen der Raumharmonielehre*. Wilhelmshaven: Noetzel, 1991 [originally 1938].
- Laban, Rudolf. *Die Welt des Tänzers: Fünf Gedankenreigen*. Stuttgart: Seifert, 1920.
- Laban, Rudolf. *Ein Leben für den Tanz*. Edited by Claude Perrottet. Bern: Paul Haupt, 1989 [reprint of 1935].
- Leschonski, Henrik. *Der Kristall als expressionistisches Symbol: Studien zur Symbolik des Kristallinen in Lyrik, Kunst und Architektur des Expressionismus (1910-1925)*. Frankfurt am Main: Peter Lang, 2008.
- Lipps, Theodor. *Ästhetik: Psychologie des Schönen in der Kunst. Erster Teil. Grundlegung der Ästhetik*. Leipzig: Verlag von Leopold Voss, 1923.
- Maar, Kirsten. "Zum Konzept der Kinesphäre bei Rudolf Laban, Richard Buckminster Fuller und William Forsythe." 2007. Last accessed July 16, 2025. http://www.transversale.org/beitrag/download/jb2_maar.pdf.
- Mohs, Dominik. *Kinästhetische Interferenzen: Körpertechnik und Tanznotation im Entwurfsprozess architektonischer Räume*. Bielefeld: Transcript, 2021.
- Moore, Carol-Lynne. *The Harmonic Structure of Movement, Music, and Dance: According to Rudolf von Laban*. Lewiston/Queenston/Lampeter: Edwin Mellen Press, 2009.
- Noell, Matthias. "Bewegung in Zeit und Raum: Zum erweiterten Architekturbegriff im frühen 20. Jahrhundert." In *Raum – Dynamik: Beiträge zu einer Praxis des Raums*, edited by Franck Hoffmann, Jens E. Sennwald, and Stavros Lazaris, 301-14. Bielefeld: Transcript, 2004.
- Pawel, Anja. *Abstraktion und Ausdruck: Bildende Kunst und Tanz im frühen 20. Jahrhundert*. Berlin/Boston: De Gruyter, 2019.
- Pawelke, Sigrid. *Einflüsse der Bauhausbühne in den USA. Eine Untersuchung zur Verbindung von Bauhausbühne und amerikanischer Bühnen-Performance und Postmodern Dance unter ästhetischen und pädagogischen Aspekten*. Regensburg: Roderer, 2005.
- Prange, Regine. *Das Kristalline als Kunstsymbol. Bruno Taut und Paul Klee*. Hildesheim/Zürich/New York: Olms, 1991.
- Sadar, John Stanislav. *Through the Healing Glass: Shaping the Modern Body through Glass Architecture, 1925-35*. New York/London: Routledge, 2016.
- Scheiffele, Walter. *Das leichte Haus: Utopie und Realität der Membranarchitektur*. Edition Bauhaus 44. Leipzig: Spector Books, 2015.
- Schatz, Paul. *Architektur und Umstülpung. Studien zum organisch-dynamischen Raumbewusstsein. Ein Schulungsweg für Architekten*. Edited by Matthias Mochner. Dornach: Verlag am Goetheanum, 2013.
- Schwabe, Caspar. "Eureka and Serendipity: The Rudolf von Laban Icosahedron and Buckminster Fuller's Jitterbug." *Bridges: Mathematics, Music, Art, Architecture, Culture* (2010). Last accessed July 16, 2025. <http://archive.bridgesmathart.org/2010/bridges2010-271.pdf>.
- Snyder, Allegra Fuller. *Experience and Experiencing* (1995). Last accessed July 16, 2025. <https://www.bfi.org/aboutfuller/biography/experience-and-experiencing>.
- Sorell, Walter. *Mary Wigman: Ein Vermächtnis*. Wilhelmshaven: Noetzel, 1986.
- Stacher, Susanne. *Sublime Visionen: Architektur in den Alpen*. Basel: Birkhäuser, 2018.
- Siepmann, Eckhard. *Ereignis Raumzeit: Physik, Avantgarden, Werkbund. Ein Traktat*. Delmenhorst/Berlin: Aschenbeck & Holstein, 2007.
- Szeemann, Harald (ed.). *Der Hang zum Gesamtkunstwerk: Europäische Utopien seit 1800*. Exhibition catalog for Kunsthau Zürich (Feb-Apr 1983), Städtische Kunsthalle Düsseldorf (May-

- Jul 1983), and Museum Moderner Kunst, Wien (Sep–Nov 1983). Aarau/Frankfurt: Sauerländer, 1983.
- Thiekötter, Angelika (ed.). *Kristallisationen, Splitterungen: Bruno Tauts Glashaus*. Basel: Birkhäuser, 1993.
- Prange, Regine. *Das Kristalline als Kunstsymbol: Bruno Taut und Paul Klee*. Hildesheim/Zürich/New York: Olms, 1991.
- Wernecke, Ingrid, and Roland März (ed.). *Kristall – Metapher der Kunst: Geist und Natur von der Romantik zur Moderne*. Exhibition catalog. Quedlinburg: Lyonel-Feininger-Galerie, 1997.
- Winther, Fritz. *Der heilige Tanz*. Rudolstadt: Greifenverlag, 1923.
- Witzmann, Pia. “‘Dem Kosmos zu gehört der Tanzende’ – Der Einfluss des Okkulten auf den Tanz.” In *Okkultismus und Avantgarde: Von Munch bis Mondrian. 1900–1915*, Exhibition catalog, June 3–August 20, 1995, edited by Bernd Apke, Veit Loers, Pia Witzmann and Ingrid Ehrhardt, 600–645. Ostfildern: Edition Tertium, 1995.
- Wölfflin, Heinrich. *Prolegomena zu einer Psychologie der Architektur*. 1886. Reprint, Berlin: Gebr. Mann Verlag, 1999.