

Gego's Teaching Practice between Geometrical Rigor and Experimentation

Natalia Sassu Suarez Ferri

The German-born Gertrud Goldschmidt, known as Gego (1912–1994), is recognized as one of Venezuela's key modernist artists. Upon the emergence of Venezuelan democracy in the late 1950s, Gego's sculptures contributed to the country's modernist turn and search for a national identity.¹ Her focus on geometry and her experimental attitude were not exclusive to her art; they were equally at the core of her pedagogical aims. Gego's engagement with teaching is often mentioned but has rarely been explored in the literature. This paper considers the ways in which Gego's teaching methods help us understand her role in promoting a new modernism in Venezuela at the intersections of art and science, modernism and postmodernism, Europe and Latin America.

Gego was a teacher for nearly twenty years, from 1958 to 1977, and across different disciplines, including design, sculpture, and watercolour. Her own education, however, had been in architecture and engineering. She graduated from the University of Stuttgart in 1938, just one year before leaving Germany, at a time when university programmes were increasingly affected by Nazi interventions. As a Jewish woman, she departed Germany mainly due to antisemitism, and her arrival in Venezuela in 1939 was not by choice: it was the first country to welcome her after a series of failed visa requests. While in the 1940s she focused on design and architecture, in the early 1950s she started experimenting with figurative art, mainly on bidimensional supports. Her focus on three-dimensional forms began in 1956, and her first teaching position as Professor of Sculpture at the Escuela de Artes Aplicadas Cristóbal Rojas in Caracas was prompted by the kinetic artist Alejandro Otero only two years later (1958–1959). During the same period, Gego was also Professor of Watercolour and Gouache for the Basic Art Course of the Facultad de Arquitectura y Urbanismo at Universidad Central de Venezuela (UCV).

1 The rise of modernism in the context of emerging democracies and newly independent countries after colonialism is a known narrative in Latin American art and a complex process that encapsulates the diversity and multiplicity of cultures and expressions of the continent. For a comprehensive, continental overview of the key modernist expressions in Latin America, see *Inverted Utopias. Avant-Garde Art in Latin America*, Mari Carmen Ramírez and Hector Olea (eds.), exh. cat., Houston, Museum of Fine Arts, New Haven/London, 2004. For the Venezuelan context specifically, see *Alfredo Boulton and His Contemporaries: Critical Dialogues in Venezuelan Art 1912–1974*, Ariel Jiménez (ed.), New York, 2008.

Gego's most significant classes, however, were aimed at architects and designers. Between 1960 and 1967, she taught the Basic Composition I and II courses in the School of Architecture at UCV.² Between 1964 and 1977, Gego taught Modelling and Three-Dimensional Forms, Two-Dimensional Forms, and Spatial Relations at the Neumann Design Institute in Caracas.³ It is on this last position, and specifically the Spatial Relations course (1971-1977), that this essay focuses. While Gego had been extremely limited by the methodologies of the university, at the design institute she had the freedom to create her own curriculum.⁴

The rigor and rationality that we see in Gego's art are also reflected in her systematic record keeping of her teaching processes, now preserved in the Documentation Centre of Fundación Gego in Caracas. Thanks to her approach, we know the aims of her courses, her proposed learning outcomes, and even specific exercises that she asked students to undertake in her classes. Here, Gego's teaching methods will be analysed through the eyes of four of her students, based on the following sources. Curator Ruth Auerbach discussed Gego's teaching methods in a text published in 2003.⁵ Designers Leonel Vera and Pedro Mancilla published Gego's teaching materials in *Space, Volume, Organisation* (1976), which they co-wrote with her.⁶ Finally, an analysis of Eugenio Espinoza's formal choices clarifies the impact of Gego's tutelage on Venezuelan contemporary art.⁷ These four students were enrolled in Gego's Spatial Relations course at the Neumann Institute, the first design institute in Venezuela and the third in Latin America, after the Di Tella Institute in Buenos Aires and the Design Institute of Rio de Janeiro. Gego was one of its co-founders, consequently playing a crucial role in providing access to education for graphic designers in Venezuela.

It is important to note the exceptionality of Gego's teaching experience in a broader discussion of gender and transmission. She was employed as an instructor in sculpture only two years after she had first approached sculpture herself, and she went on to co-found the Neumann Institute, where she then taught.

2 *Gego: Obra Completa, 1955-1990*, Museo de Bellas Artes and Fundación Cisneros (eds.), exh. cat. Caracas, Fundación Cisneros, Caracas, 2003, p. 361. For detail on the Basic Composition courses, see Ruth Auerbach, "Gego, Constructing a Didactics," in exh. cat., Caracas, 2003, p. 409.

3 Exh. cat., Caracas, 2003 (note 2), p. 416.

4 Auerbach, 2003 (note 2), p. 410.

5 Ibid. (note 2), pp. 406-412.

6 Gego, Leonel Vera, and Pedro Mancilla, *Espaciovolumenorganización*, Caracas, 1976. Leonel Vera and George Dunia, both students in Gego's Spatial Relations seminar, realized a digital version of this publication in November 2016 (available at https://issuu.com/mobius.george/docs/1_espacio_01 [accessed 05.04.2022]). While this book was co-written with Gego, Vera and Mancilla then wrote a second volume with fellow student Ruth Auerbach, in which they took Gego's teaching as a starting point for their own exercises on geometry. The book was authored by them but supervised by Gego: Leonel Vera, Pedro Mancilla, and Ruth Auerbach, *Espaciovolumenorganización 2*, Caracas, 1979 (available at <https://issuu.com/mobius.george/docs/espaciovolumenorganizacion2> [accessed 05.04.2022]).

7 Espinoza acknowledges the impact of Gego's teaching in the video interview: <https://fundaciongego.com/en/eugenio-espinoza/> [accessed 05.04.2022].

We must therefore see her case as extremely rare and privileged in its lack of entanglement with the gender inequalities that most women artists and teachers had – and still have – to face.

Gego's "Spatial Relations" Seminar at the Neumann Design Institute (Caracas, 1971–1977)

Gego's curriculum for the Spatial Relations seminar at the Neumann Design Institute was strongly informed by her previous teaching experience, and it was structured around one single element and its potential for the creation of spatial forms: the line.⁸ This clearly demonstrates the overlap between her practices as a teacher and an artist. Indeed, the use of line as a sculptural object was the main way in which she sought to redefine sculpture in her work.⁹ In Gego's seminars, lines were first studied as concepts and then translated into spatial forms.

A crucial starting point for Gego's classes was *Order in Space*, a 1969 book by the English researcher Keith Critchlow. Its focus on the geometry of solids allowed Gego to support her views on the creative potential of lines by grounding them in mathematical and scientific theories.¹⁰ Auerbach recalls that Gego referred to this text as the "Bible,"¹¹ while Vera and Mancilla published certain exercises that the artist had derived from this source.¹² Vera's and Mancilla's publication, co-written with Gego, demonstrates the rigor of the artist's pedagogical methods. In particular, it shows the emphasis of Gego's workshops on reticular structures and the transformations of surfaces and planes into polyhedrons, beginning with simpler forms and advancing to Platonic and Archimedean solids.¹³ Gego was very rigid in her teaching of geometry, expecting high standards of precision in students' use of geometric forms in their exercises. Her pedagogical methodology was rooted in the belief that it is impossible to teach a student how to become an artist, whereas technique can certainly be taught: "You cannot teach art; technique, yes: how to paint, how to

8 Auerbach, 2003 (note 2), p. 411.

9 Gego, "Testimony 4: You Invited Me (1966)," in Maria Elena Huizi and Josefina Manrique (eds.), *Sabiduras and Other Texts by Gego*, Houston and Caracas, 2005, p. 167. Gego wrote this text for a talk at the Tamarind Lithography workshop in Los Angeles. The literature has focused on the centrality of lines in her work: *Questioning the Line: Gego in Context*, Mari Carmen Ramírez and Theresa Papanikolas (eds.), exh. cat., Houston, Museum of Fine Arts, Houston, 2003; *Gego 1957-1988. Thinking the Line*, Nadja Rottner and Peter Weibel (eds.), exh. cat., Karlsruhe, ZKM Karlsruhe, Ostfildern-Ruit, 2006; *Gego, Line as Object*, Lisa Le Feuvre et al. (eds.), exh. cat., Hamburger Kunsthalle, Kunstmuseum Stuttgart, Henry Moore Institute, Ostfildern-Ruit, 2014.

10 Keith Critchlow, *Order in Space. A Design Source Book*, New York, 1970.

11 Auerbach, 2003 (note 2), p. 410.

12 See note 6.

13 Platonic solids feature all identical faces and are known as the five regular polyhedrons (tetrahedron, cube, octahedron, dodecahedron, and icosahedron). Archimedean solids are thirteen semi-regular polyhedrons. Their faces are not identical and can feature different types of regular polygons. Their vertices, however, are all identical.



1 Gego with students at the Neumann Institute, Caracas, ca. 1971

mix, how to use color, but art...I cannot.”¹⁴ In other words, in order to have the freedom and ability to create intuitively, students must first achieve technical mastery. They were asked to experiment with geometry by constructing artworks based on set combinations of geometric forms (fig. 1). After presenting their work to the class, students would then engage in a discussion. Her students came to see fixed instructions not as barriers to their creative freedom, and the fact that Gego helped them reach this conclusion through their own experience was in itself a fundamental and innovative pedagogical tool.

For each of her courses, Gego wrote summary reports in line with what is known as “reflective writing,” a pedagogical approach where educators reflect on their practice, analyse their methods, evaluate the impact of these methods

14 Gego, “Testimony 8: Sometimes It Is an Advantage (1981)” in Huizi and Manrique (eds.), 2012 (note 9), p. 196. This text is the transcript of an interview that the Venezuelan cinema and television director José Antonio Pantin conducted with Gego in Caracas. The interview was originally planned as part of a series of documentaries on Venezuelan artists organized by the Galería de Arte Nacional but was aired for the first time in 2001 (Caracas, Museo de Bellas Artes). María Fernanda Palacios, “A Conversation with Gego,” in Rottner and Weibel (eds.), 2006 (note 9), p. 220. Palacios was Gego’s colleague at the Neumann Institute (1967–1973). Her interview was originally published in *Iddeas: revista de diseño y comunicación visual* 3, May 1972, pp. 22–27.

on student learning, and produce an action plan to improve on the results when necessary.¹⁵ The artist also kept notebooks with detailed comments about individual students' interests, skills, and progress. As Auerbach, her former student, recalls, Gego was convinced that “whether or not education transcended depended on the personality of the instructor more than on any given program”:¹⁶ for Gego, the identity of the teacher and the ways in which teachers interact with students were crucial to student learning.¹⁷

In 1962, two years before taking up her position at the Neumann Institute, Gego undertook a comparative study of architecture-related pedagogical methods at institutions in England, Germany, Switzerland, and the United States, in order to then apply her findings to her teaching in Venezuela. She concluded that there were three main trends in university institutions in the early 1960s: “1- Curricula deeply rooted in traditional programs and methods, which included limited contemporary theories and practices; 2- Curricula that focused on innovation at the detriment of traditional structural and functional elements; and 3-curricula that focused on the systematization of planning, functions of space and human actions.”¹⁸ Her own methods clearly fall into this last trend, where the systematization of knowledge is seen as the necessary starting point for personal and artistic development. Nevertheless, in Gego's words, “the goal itself – creativity – cannot be imprisoned in a fixed schedule and syllabus.”¹⁹

Gego's students, and Auerbach in particular, argue that it is precisely because Gego's methods were not centred on imposing her own ideas, rather being focused on the learner, that we do not find a recognizable style in the legacy of her teaching.²⁰ From this, we can deduce that her pedagogical methods were learning focused rather than teaching focused. In other words, she created a learning environment that was not centred around the teacher – and in her case, around the famous artist imparting knowledge upon students – but instead around giving students the tools to develop their own ideas in a learning environment characterized by exchange, collaboration, and dialogue. On the one hand, she made sure that students were provided with a rigorous methodology rooted in geometry and mathematics. On the other, once students had mastered those components, Gego gave them the space for spontaneity and creativity

15 Paul Ashwin et al., *Reflective Teaching in Higher Education*, London, 2015. Annetta Tsang, “Personal Reflection: Reflective Learning as a Student and an Educator: Connecting the Scholarship of Teaching and Learning,” in *International Journal for the Scholarship of Teaching and Learning*, 3/2, article 29, 2009 (available at: <https://digitalcommons.georgiasouthern.edu/ij-sotl/vol3/iss2/29/> [accessed 01.09.2022]).

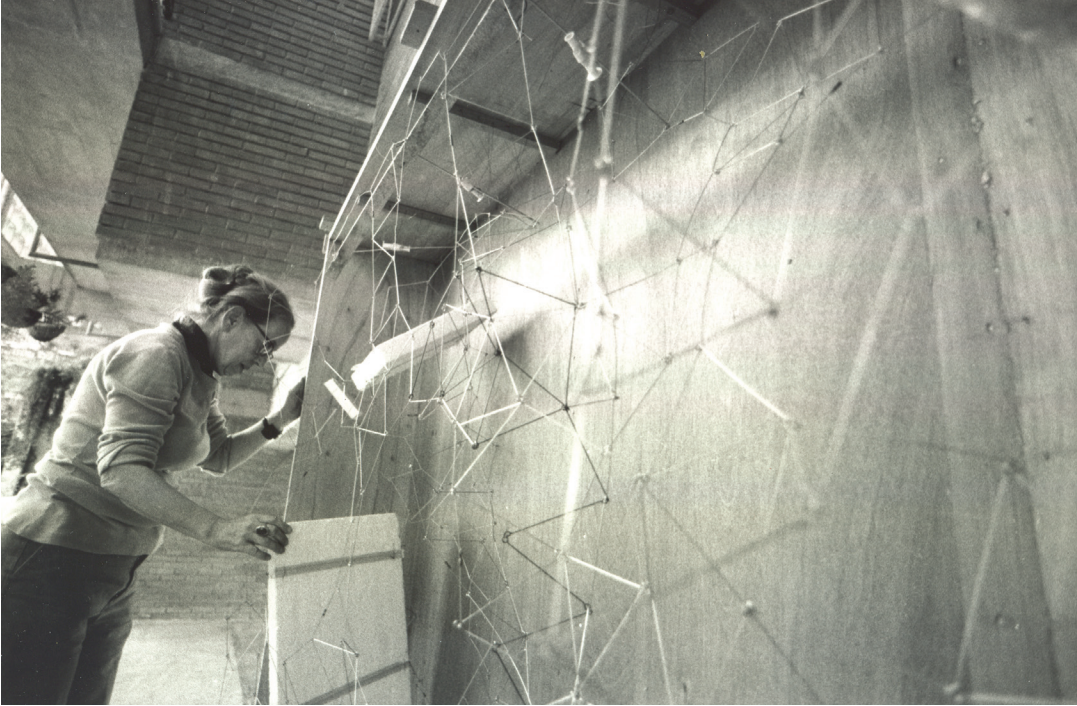
16 Auerbach, 2003 (note 2), p. 408.

17 The importance of these is discussed in Ashwin, 2015 (note 15), pp. 3–20.

18 Auerbach, 2003 (note 2), p. 408. Ahead of her official report, Gego outlined her findings in a letter to her UCV colleague Oscar González: Gego, “Testimony 10: Dear Oscar (1964)” in Huizi and Manrique (eds.), 2012 (note 9), pp. 207–211.

19 Gego, “Testimony 2: The History of Art Schools (1964)” and “Testimony 3: I Believe It Is Necessary (1964–1977),” in Huizi and Manrique (eds.), 2012 (note 9), pp. 159, 161.

20 Auerbach, 2003 (note 2), p. 406.



2 Gego, Caracas, 1975

in their own experimentations by asking them to construct artworks based on specific geometric solids. While they all had the same assignment of recreating the given geometric form, each was pushed to use that form to express their own individual creativity. Gego's works from the 1960s and 1970s demonstrate how she was experimenting with geometric structures herself, along the same lines as the exercises she was proposing to her students (fig. 2).²¹

Opening Paths for Alternative Venezuelan Modernisms

One of the most authoritative voices in Latin American modernisms, the academic and curator Mari Carmen Ramírez, identifies experimental attitudes as one of four common aspects of Latin American modern and contemporary art.²² Such an experimental attitude was a key component of Gego's workshops,

21 Iris Peruga mentions Gego's *Troncos* and *Esferas* as indicative of her research alongside her students. Iris Peruga, "From Matter to Space: The Game of Creation or Creation as Game," in exh. cat., Houston, 2003 (note 9), p. 67.

22 Mari Carmen Ramírez, "A Highly Topical Utopia. Some Outstanding Features of the Avant-Garde in Latin America," in exh. cat., Houston, 2004 (note 1), p. 5.

in which she encouraged students to use the simplest materials (thread, straw, wire, etc.) because these allowed them to work with their hands. In her art as well as in her teaching, Gego emphasized the connection between art and nature, admitting that while nature's structures are perfect, artistic ones are inevitably imperfect.²³ This focus on human imperfection contrasts with notions of machine-like and machine-made perfection in kineticism, the official modernist narrative in Venezuela in that period.

Following a series of dictatorships, the country's emerging democracy in 1958 translated into a new effort towards the expression of national identity through the arts. In specific, Venezuela was coming out of the regime of Marcos Pérez Jiménez, who had used modernist architecture to demonstrate the efficiency of dictatorship in providing the nation with visible infrastructural improvements and a façade of modernity.²⁴ The bipartisan nature of the new democracy, in combination with the oil boom of the following decade, meant that the government found in Venezuelan kineticism a useful vehicle for their messages of progress and modernity. For several non-kinetic artists, this was proof of the equivalency of kineticism with an official state art, in which the machine-made precision of artworks conformed to European criteria.²⁵ Gego's art and teaching contributed to an inversion of this official narrative by demonstrating that the precision of geometry could be connected to nature's structures and that, by preserving the handmade quality of art, modernism and its utopian ideals could include a poetic element. Without getting involved in confrontational attitudes or statements, Gego proved to the Venezuelan public that scientific approaches to art were not exclusively in the hands of men and machines: works like her *Bichos*, *Chorros*, and *Reticuláreas*, each organic and playful, were equally the result of scientific research.²⁶

23 Auerbach, 2003 (note 2), p. 408. Peruga, 2003 (note 21), p. 53. Guy Brett, "Gego's Force Fields," in exh. cat., Houston, 2003 (note 9), p. 153. For a historical source on Gego's mixture of intuition and logic and on her approach to nature, see Marta Traba, "Gego," in Rottner and Weibel (eds.), 2006 (note 9), pp. 210–214, originally written for Gego, Hanni Ossott (ed.), exh. cat., Caracas, Museo de Arte Contemporáneo Sofía Imber, Caracas, 1977.

24 See Lisa Blackmore, *Spectacular Modernity: Dictatorship, Space, and Visuality in Venezuela 1948–1958*, Pittsburgh, 2017.

25 For example, see Angel Rama, "Of Terrorism in the Arts (Antología de El Techo de la Ballena)," in *Contesting Modernity. Informalism in Venezuela, 1955–1975*, Mari Carmen Ramírez and Tahia Rivero (eds.), exh. cat., Houston, Museum Fine Arts Houston, Houston, 2018, pp. 249–251.

26 Calls for viewing Gego as a "counter-figure" to kineticism are expressed in Mari Carmen Ramírez, "Reading Gego Between the Line," in exh. cat., Houston, 2003 (note 9), p. 27, and in Luis Pérez Oramas, "Gego y la escena analítica del cinetismo," in *Heterotopías: medio siglo sin lugar, 1918–1968*, Mari Carmen Ramírez and Hector Olea (eds.), exh. cat., Madrid, Museo Reina Sofía, Madrid, 2000, p. 248. For discussions on the tensions between Gego's European and Latin American influences and a contextualization of her work as an alternative to kineticism, see Marta Traba, "Gego: Caracas tres mil," in *Mirar en Caracas*, Caracas, 1974, pp. 51–59, republished in English as "Gego: Caracas year three thousand," in Jiménez (ed.), 2008 (note 1), pp. 289–294. Luis Pérez Oramas problematizes Traba's understanding of Gego's organic approach in her *Reticuláreas* in his text "Abstraction, Organism, Apparatus: Notes of the Penetrable Structure in the Work of Lygia Clark, Gego, and Mira Schendel," in *Modern Women: Women Artists at the Museum of Modern Art*, Cornelia Butler and Alexandra Schwartz (eds.), exh. cat., New York, Museum of Modern Art, New York, 2010, p. 325.

Traces of Gego's Teaching in the Work of Her Student Eugenio Espinoza

The emphasis Gego placed on mathematical rigor and creativity is reflected in the work of her design student Eugenio Espinoza, who bases a good portion of his artistic proposals on the grid.²⁷ One of Espinoza's most significant series, *Impenetrables*, reveals the impact of Gego's teaching on her students in their attempts to invert the course of official modernism in the country. The title *Impenetrables* is in clear reference to one of Jesús Rafael Soto's most notable series, the *Penetrables* (1967–2005), a kinetic artwork that invited audiences to walk through its sequence of strings. The goal for Soto was to create visual vibrations that would change the ways in which viewers interacted with art and space, providing experiences rather than “imposing” artworks to be viewed by mere spectators. Our freedom of movement in Soto's works is based on a study of colours and materials as well as of the distance between these strings. The optical illusions of vibration in his art are rooted in scientific study.²⁸

Espinoza's series *Impenetrables* is equally based on a rigorous mathematical study, derived from his education with Gego. *Impenetrable* (1972, fig. 3) consists of a large, white canvas installed against the floor of a gallery on a wooden stretcher, such that its dimensions depend entirely on those of the room in which it is installed. The grid painted on the canvas shows the same geometric abstraction favoured by the kinetics, but in the case of Espinoza the viewer has no physical access to the work, and the work even impedes access to the gallery in which it is installed. While kineticism centred around interaction, *Impenetrable* – preventing us from having the same participatory experience – can be read as a conceptual work about the obstacles and limitations of institutional modes of display and institutional choices about what is and is not displayed. And while kineticism had a democratic scope and promoted ideas of equality by providing experiences that were accessible to everyone regardless of class, education, or gender, Espinoza's work highlighted the disconnect between this utopian ideal of government-promoted art and the reality of life in Venezuela in the 1970s. The *Impenetrable* series was conceived during Espinoza's time studying under Gego, the first work of the series being created in the institute's workshop.²⁹ It reflects how lines create surfaces, how surfaces create grids, and how geometrical structures seem endless, without a beginning, a middle, or an end.

27 For further reading on Espinoza, see *Eugenio Espinoza: Unruly Supports (1970-1980)*, Jesús Fuenmayor et al., exh. cat., Miami, Pérez Art Museum, Miami, 2015. Eugenio Espinoza and Madeline Murphy Turner, “Off the Grid: A Conversation with Eugenio Espinoza,” <https://www.moma.org/magazine/articles/571> [accessed 01.09.2022].

28 For further reading on Soto, see Ariel Jiménez, *Jesús Soto in Conversation with Ariel Jiménez*, New York, 2012; *Soto*, Ariel Jiménez, Jean-Paul Ameline, and Nathalie Ernoult (eds.), exh. cat., Paris, Centre Georges Pompidou, Paris, 2013. *Soto: la cuarta dimensión*, Manuel Cirauqui, Monica Amor, and Jean Clay (eds.), exh. cat., Bilbao, Guggenheim Bilbao, Bilbao, 2019.

29 <https://fundaciongego.com/en/eugenio-espinoza/> [accessed 05.04.2022].



3 Eugenio Espinoza,
Impenetrable, 1972,
acrylic on unprimed
muslin, wood,
London, Tate

Students in Gego's workshops were constantly asked to come up with artworks based on the potential of geometrical structures, and the shift towards conceptualism here exemplifies one of these possibilities. In the *Impenetrable* series, grids also became part of performances, and they were sometimes exhibited in open spaces, whether urban or rural.³⁰ Espinoza embodies what Auerbach identified as Gego's key impact on her students: method and discipline; experimentation; the manual element of the work; the importance of both traditional and contemporary influences and knowledge (seen here in the coexistence of geometric abstraction and conceptual art); and the social responsibility of the artist in challenging established ideas.³¹

Gego paved the path to a new understanding of modernism in Venezuela by propagating an alternative narrative to the preference for technology put forth by the government. She helped her students and audiences alike question whether technology was truly the only way to embody the newly achieved modernity of the country. Gego demonstrated that an emphasis on the handmade was in no way less modern, less rational, or less scientifically based than kinetic art. Instead of using her privileged position to impose her knowledge and expertise through her teaching or writing, Gego prioritized access to education, openness to dialogue, and social consciousness in her pedagogical methodology, making her contributions to education and art all the more extraordinary and worthy of further recognition and research.

³⁰ For example, *Impenetrable*, 1972 (photographed by Claudio Perna in the dunes of Coro, Venezuela) and *Participations*, 1973 (black-and-white photographs, edition of 10).

³¹ Auerbach, 2003 (note 2), p. 411.