Sandra Valenzuela

Prácticas de educación visual

Manual inspirado en la didáctica de Mathias Goeritz y el Taller Nómada

Visual Education Practices

A Manual Inspired by the Didactics of Mathias Goeritz and the Taller Nómada

David Miranda

Visual Education Practices

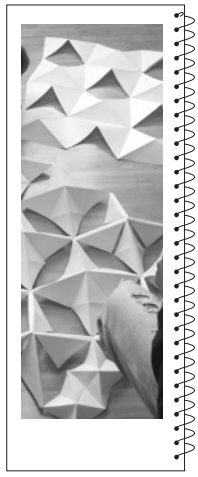
A Manual Inspired by
the Didactics of Mathias Goeritz
and the Taller Nómada

David Miranda

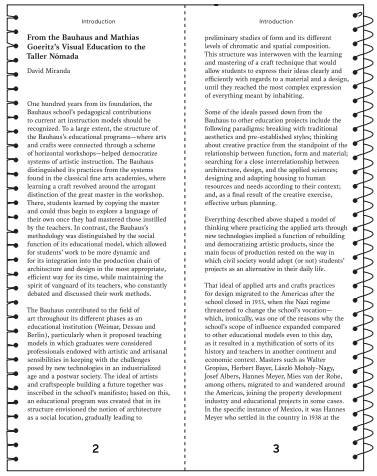
Sandra Valenzuela

* Para la versión en español, arranca la página y dobla al revés

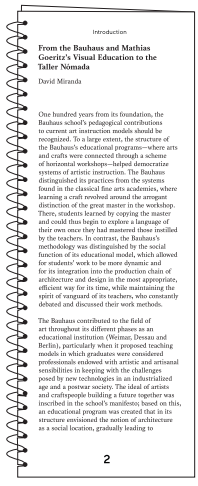
1. Arranca la página superior



2. Desdobla la hoja



3. Dobla la hoja hacia atrás



From the Bauhaus and Mathias Goeritz's Visual Education to the Taller Nómada

David Miranda

One hundred years from its foundation, the Bauhaus school's pedagogical contributions to current art instruction models should be recognized. To a large extent, the structure of the Bauhaus's educational programs—where arts and crafts were connected through a scheme of horizontal workshops—helped democratize systems of artistic instruction. The Bauhaus distinguished its practices from the systems found in the classical fine arts academies, where learning a craft revolved around the arrogant distinction of the great master in the workshop. There, students learned by copying the master and could thus begin to explore a language of their own once they had mastered those instilled by the teachers. In contrast, the Bauhaus's methodology was distinguished by the social function of its educational model, which allowed for students' work to be more dynamic and for its integration into the production chain of architecture and design in the most appropriate, efficient way for its time, while maintaining the spirit of vanguard of its teachers, who constantly debated and discussed their work methods.

The Bauhaus contributed to the field of art throughout its different phases as an educational institution (Weimar, Dessau and Berlin), particularly when it proposed teaching models in which graduates were considered professionals endowed with artistic and artisanal sensibilities in keeping with the challenges posed by new technologies in an industrialized age and a postwar society. The ideal of artists and craftspeople building a future together was inscribed in the school's manifesto; based on this, an educational program was created that in its structure envisioned the notion of architecture as a social location, gradually leading to preliminary studies of form and its different levels of chromatic and spatial composition. This structure was interwoven with the learning and mastering of a craft technique that would allow students to express their ideas clearly and efficiently with regards to a material and a design, until they reached the most complex expression of everything meant by inhabiting.

Some of the ideals passed down from the Bauhaus to other education projects include the following paradigms: breaking with traditional aesthetics and pre-established styles; thinking about creative practice from the standpoint of the relationship between function, form and material; searching for a close interrelationship between architecture, design, and the applied sciences; designing and adapting housing to human resources and needs according to their context; and, as a final result of the creative exercise, effective urban planning.

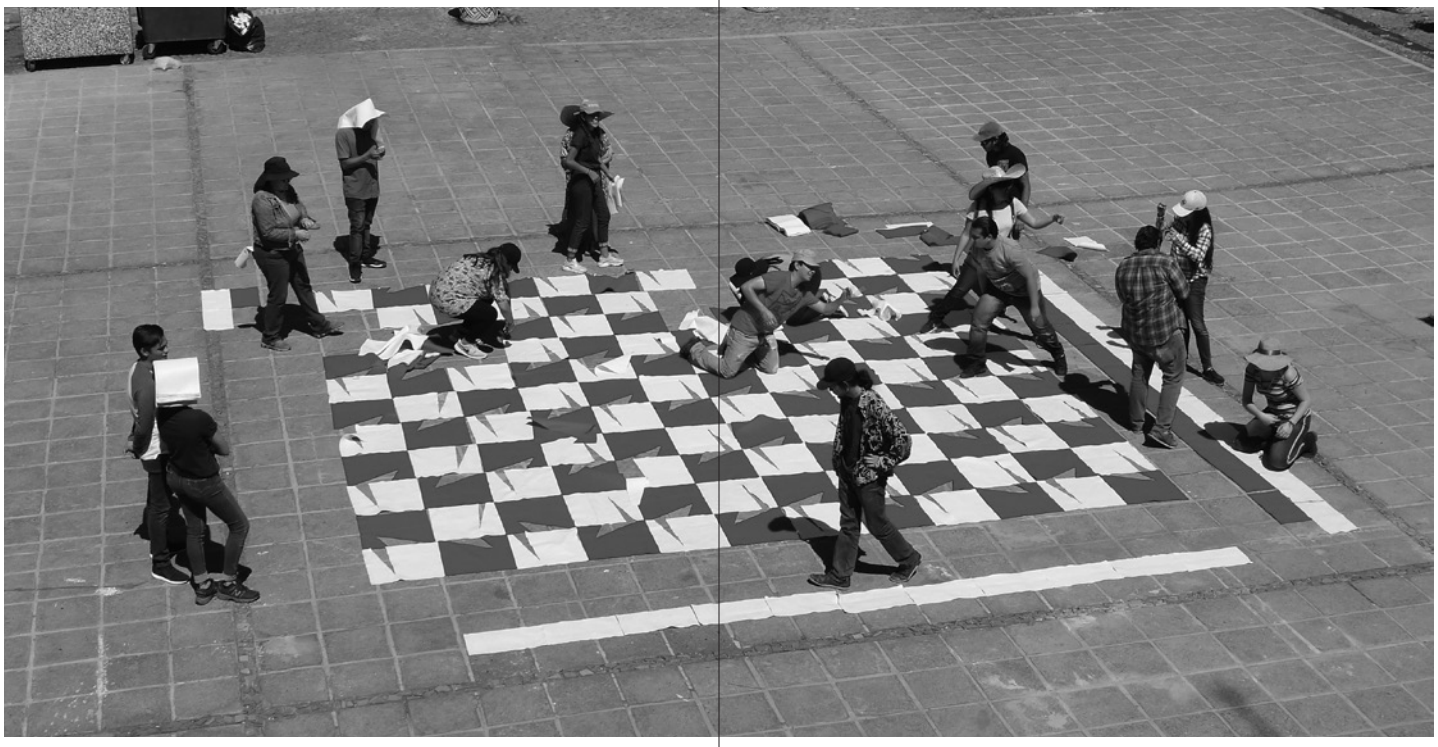
Everything described above shaped a model of thinking where practicing the applied arts through new technologies implied a function of rebuilding and democratizing artistic products, since the main focus of production rested on the way in which civil society would adopt (or not) students' projects as an alternative in their daily life.

That ideal of applied arts and crafts practices for design migrated to the Americas after the school closed in 1933, when the Nazi regime

threatened to change the school's vocation—which, ironically, was one of the reasons why the school's scope of influence expanded compared to other educational models even to this day, as it resulted in a mythification of sorts of its history and teachers in another continent and economic context. Masters such as Walter Gropius, Herbert Bayer, László Moholy-Nagy, Josef Albers, Hannes Meyer, Mies van der Rohe, among others, migrated to and wandered around the Americas, joining the property development industry and educational projects in some cases. In the specific instance of Mexico, it was Hannes

for the Federal School Construction Program (CAPFCE), where he edited the magazine *Construyamos escuelas* (Let's Build Schools), sowing the seed of many principles related to the social function of local architecture.

Hannes Meyer returned to Europe in 1949, and that same year Mathias Goeritz arrived in Mexico at the invitation of engineer Ignacio Díaz Morales on behalf of the nascent Guadalajara School of Architecture. Although Goeritz did not study at the Bauhaus, he assumed the theoretical principles of the school's teachers as his own



Taller Nómada, February 18-21 2019. Students at the collective mosaic. Photograph: David Miranda / Sandra Valenzuela, Faculty of Arts, UdG.

Meyer who settled in the country in 1938 at the invitation of President Lázaro Cárdenas and began working as a professor at the National Polytechnic Institute's College of Engineering and Architecture, where he directed the courses on urban planning. This would become one of the Bauhaus's most direct influences on Mexico's academic structure, after Meyer became coordinator of the Administrative Committee

for his educational model, and they were a core element of his teaching. This was a response to the ambition cherished by the organizers of putting together a team of teachers that would reproduce the foundations of the Bauhaus in Guadalajara. In his forty years as a teacher in Mexico, Mathias Goeritz integrated philosophical and didactic principles from Paul Klee, Vasili Kandinsky, György Kepes, László Moholy-Nagy,

Johannes Itten, and Herbert Bayer to his Visual Education and Design I and II courses. Both his case and Hannes Meyer's underscore the inclusion of unique pedagogical values arising from a conviction of social function through creative practice, all of which have strongly marked structural aspects of academic programs in most architecture and design schools in Mexico. This is evident in their curricular structure and in the way in which the first phase of the Bauhaus has been reproduced through the exploration of preliminary studies of form and self-expression.

Since 2017, Sandra Valenzuela—as part of her Ph.D. studies in Education Sciences at the Department of Educational Research at the Center for Research and Advanced Studies (DIE-CINVESTAV) and I—through my research as curator at the Museo Experimental el Eco—started interviewing people that studied under Mathias Goeritz and in some cases were adjunct professors in his classes, such as architects Lilly Nieto Belmont and Guillermo Díaz Arellano. Our research focused on the exercises set by Goeritz during his Visual Education and Basic Design courses, and the result of this research was a reinterpretation of exercises from those courses in a series of workshop practices that updated the principles taught by Goeritz. The Taller Nómada de Educación Visual was part of the public program presented by the Mathias Goeritz Extraordinary Chair sponsored by the UNAM's Museo Experimental el Eco. The workshop took place in the cities where Goeritz taught—Guadalajara, Cuernavaca and Mexico City—with various sessions directed to students of architecture, art and design. From a theoretical-practical perspective, this workshop was a platform for conceptual reflection and production of design, architecture and art resources and strategies, focusing on solving language problems in basic design, visual education, and urban issues. The Taller Nómada de Educación Visual had as its headquarters and associates the Faculty of Architecture at the Autonomous University of the State of Morelos (UAEM) in

Cuernavaca, Morelos; the Faculty of Architecture at the UNAM, in Mexico City; the University of Guadalajara, in the state of Jalisco; and the Center for Architectural and Urban Culture (CCAU), also in Jalisco. The workshop exercises were based on the inductive method described by Herbert Bayer, which consists of developing students' abilities "from the inside out," creating awareness of the qualities of each material and the function of the object—that is, "from the outside in." The Taller Nómada sought students' self-expression through exercises with clear instructions that addressed universal concepts related to the image and to the subjective color palette proposed by Johannes Itten in his contrast exercises, which were in turn learned from Adolf Hölzel. We also took up exercises related to balance and structures based on Josef Albers's notions of design. It was all mediated by the sense of integration and collective empathy based on the emotional development of the groups proposed by Mathias Goeritz for the Mexican context, all of which left a mark on his students' professional lives, as we discovered in the interviews we held during this process.

The contributions made to the field of teaching by this artistic lineage that was bestowed on Mexico by all the personalities mentioned in this reflection make us wonder where—in the face of the industrial maelstrom of the present day—professional schools are focusing their efforts today and where the spirit of social practice is; this way, the lessons taught by these educational models can be reconsidered as their steps are retraced with another intention, where corporate efficiency and developmentalism remain in the background, and as we ponder how this could provide alternatives to our many present problems for the (re)-construction of social and environmental space. We hope that this manual will be a useful tool for teachers, mediators, social workers and group leaders concerned with building empathetic communities of knowledge, in the interest of encouraging imagination and creativity as a counterweight to the onslaught of consumer society.

Exercises and Evidences of the Workshops in Morelos, Jalisco and Mexico City

Reinterpreted by David Miranda
and Sandra Valenzuela

A. Relaxation Exercises

Reinterpretation derived from Johannes Itten's exercises at the Bauhaus and an exercise conducted by Mathias Goeritz for his students at the Autonomous University of the State of Morelos (UAEM).

B. Visualization Exercises

Reinterpretation of visualization and relaxation exercises derived from a 2018 interview with architect Juan Álvaro Chávez Landa, a student of Mathias Goeritz's.

C. Guided Exercises and Exercises of Creative Possibility

Reinterpretation of guided exercises beginning from a specific premise. According to Mathias Goeritz's description in the text "La educación visual" (Visual Education) in the *Gazette* published by the Fondo de Cultura Económica in 1961, these exercises allowed students great freedom of solutions through the use of a specific material with which a designated premise was solved individually and in group.

A. Relaxation Exercises

A-01. Relaxation Through Complementary Color Contrasts

Complementary contrasts:

- Orange – Blue
- Red – Green
- Violet – Yellow

Students can do this exercise sitting or lying on the floor.

They must be in a comfortable, safe position, in a place where they can relax their bodies and close their eyes.

Give the following instructions to the group:

- Close your eyes.
- Inhale for three seconds, hold your breath for three seconds more, and then exhale.
- Visualize your silhouette inside the room in the position your body is in.
- Inhale and imagine your body relaxing. As you exhale, imagine you are exhaling tension.

- Relax your body.
- Again: inhale, and as you do so, imagine your silhouette filling with the color orange.
- Hold your breath and imagine your body completely covered in orange.
- As you exhale, imagine you are emanating the color blue.
- Inhale again, and imagine how you inhale and your body fills with the color blue.
- Hold your breath and hold that mental image.
- Exhale and visualize how you emanate orange.
- Inhale again and feel how the air flows in and out through your nostrils.
- Exhale and feel how the air flows out as you imagine your silhouette in the place where you are.
- Inhale again, and visualize your body filling with the color green.
- Hold your breath, imagining that your whole body is green.
- As you exhale, imagine that you are emanating the color red.
- Imagine how the red air leaves your body.
- Inhale and imagine you are breathing in the color red and your body is filling with monochrome red.
- Hold your breath and hold that mental image.
- As you exhale, imagine that you are expelling the color green.
- Inhale slowly once again and feel how the air flows in through your nostrils.
- Exhale slowly and feel how the air flows out your nose and touches your nostrils.

Now repeat the previous breathing exercises but with the colors violet and yellow:

- Inhale and imagine your body is filling with the color violet.
- Imagine your silhouette covered in violet.
- Hold your breath and hold that mental image.
- Exhale and imagine your exhalation is a golden yellow color.
- Now inhale and imagine your silhouette is filling with golden yellow.
- Hold your breath and hold that mental image.

- As you exhale, feel how the air flows out of your nose, a violet color.
- Finally, inhale again and imagine your silhouette and your classmates' silhouettes filled up with one of the colors we have visualized.
- Exhale and change the color of your silhouette and your classmates' silhouettes. Now the image is one of collective breathing.
- Repeat the inhalation, but this time imagine another color.
- Hold your breath and hold that mental image, and when you exhale, imagine that everyone is exhaling the same color.

Finally:

- Inhale and feel how everyone breathes, and imagine how the air flows in through your nostrils.
- Inhale. Hold your breath three seconds, and as you exhale imagine how everyone else feels the air escaping from their bodies.
- Keep imagining your silhouette and your classmates' silhouettes.
- Now, when you hear a sound or a handclap, slowly begin to rejoin the class. Open your eyes slowly and begin to move your limbs.

The handclap or sound is heard, waiting for all to rejoin.

A-02. Deep Core Relaxation, Root Networks and Head to Toes

The students are lying on the floor, sitting on a chair or sitting on the floor with their backs against the wall. It must be a safe, comfortable position.

- Close your eyes.
- Inhale (for approximately three seconds), hold (for approximately three seconds) and exhale (for three seconds).
- As you inhale, feel how the air flows in through your nostrils; when you exhale, feel

the air flowing out through your nose and brushing through your nostrils.

- Inhale and visualize your silhouette in the space and position you are in. Exhale.
- Imagine that your silhouette is of a single color. Choose a color you like.
- Inhale again and imagine that a network of roots is running through your entire body, and that network is your nervous system. Exhale.
- Inhale, imagine that the network of roots running through your entire body is of another color, and imagine how it contrasts with your silhouette. Exhale.
- Inhale and visualize your nervous system, made up of roots that run through your body. Hold your breath and hold the image; as you exhale, visualize yourself relaxing your system of roots, and imagine that it's expanding.
- Inhale once again and visualize this system of roots that is running through your entire body. As you exhale, feel how the air flows out through your nose and how the network of roots that is your nervous system begins to relax.
- Inhale. Imagine your silhouette in the position you are holding, in a color you like a lot. In your imagination, fill your silhouette with that color. Exhale.

You can end this section of the exercise. If you decide to end: When you hear a handclap or a sound, little by little begin to rejoin the class. Slowly move your limbs, lie on your side (if you are lying down) and slowly open your eyes.

You can also continue with the second part of the relaxation, beginning with a series of inhalations and exhalations to visualize and relax your body from head to toes.

Part two

This relaxation begins first by visualizing the silhouette and then relaxing different parts of the body, from head to toes.

- We will do a series of inhalations and exhalations.
- When you inhale, visualize your skull; exhale, and imagine your skull relaxing.
- Inhale, and as you exhale, relax your forehead, your eyes, the back of your neck, your ears.
- Inhale and imagine that you are relaxing your nose, your cheekbones, lips, mouth. As you exhale, relax them.
- Inhale and then, as you exhale, visualize yourself relaxing your nape and your neck.
- Inhale, and as you exhale feel how your entire head relaxes and becomes lighter.
- Inhale and visualize your vertebrae and your neck, and as you exhale imagine you are relaxing them.
- Inhale, and now we'll imagine the shoulders, the shoulder blades, the collar bone. As you exhale, relax them.
- Inhale, and as you exhale, relax the chest, the sternum.
- Inhale and visualize your ribs, lungs and the middle of your torso. As you exhale, relax them.
- Inhale and visualize your arms and elbows. As you exhale, relax them.
- Inhale and visualize your forearms. As you exhale, relax them.
- Inhale and visualize your wrists and the palms of your hands. As you exhale, relax them. Inhale and visualize the phalanges of your fingers; as you exhale, relax them. Inhale and visualize your hand and each finger. As you exhale, relax them.
- Inhale and visualize your arms and hands. As you exhale, imagine that you relax them.
- Now we'll imagine the body's torso (the central part or trunk). Inhale, and as you exhale, relax it. Inhale and visualize your belly. As you exhale, relax it. Inhale and visualize the stomach with its intestines; the

kidneys, which are at the back of the middle of your trunk. Exhale and relax them. Inhale and visualize your silhouette with everything you have relaxed and, as you exhale, relax everything that was already relaxed even more.

- Inhale and visualize your hips, your pubic bone; exhale and relax them. Inhale and visualize your buttocks and the triangular bones inside the buttocks, known as sit bones or ischia. Exhale and relax them. Inhale and imagine your entire hip; exhale and relax it. Inhale and imagine your tailbone; exhale and relax it. Inhale and visualize your hip and the bone that goes from the hip to the knee: the femur. As you exhale, relax it.
- Inhale and visualize your quadriceps, which are the muscles of the front part of the thighs; exhale and relax them. Inhale and visualize the hamstrings—the muscles that go from the hip to the knee down the back side of the thighs—and as you exhale, relax them.
- Inhale and visualize your thighs; as you exhale, relax them completely.
- Inhale and visualize your knees. As you exhale, relax them.
- Inhale and visualize your calves and shins, the lower part of your legs. Exhale and relax them.
- Inhale and imagine your thighs, knees and the lower part of your legs. As you exhale, imagine that you relax them.
- Inhale and imagine your ankle. As you exhale, imagine that you relax it. Inhale and imagine your heel, and as you exhale, relax it.
- As you inhale, imagine the metatarsals (in the forefoot, between the instep and the toes) and the arch of your foot. As you exhale, imagine that you relax it.
- Inhale and imagine the phalanges of your toes; the big toe, then the next toe, and so on until the little toe. Exhale and relax all the toes on your feet.
- Inhale and imagine your whole feet, along with the toes. As you exhale, relax them.

- Now imagine the entire silhouette of the body again. Inhale and retain that mental image. As you exhale, relax it.
- Inhale again and imagine your body's silhouette in the classroom. Exhale and imagine that the whole silhouette relaxes.
- When you hear a handclap or a sound, little by little begin rejoining the class. Move your limbs slowly, lie on your side (if you are lying down) and slowly open your eyes.

The sound or handclap is heard.

A-03. Brief Standing Relaxation (to begin exercises)

This activity begins with a breathing exercise.

The students stand in a circle in the center of the classroom.

They close their eyes and each one visualizes their position. Their legs are slightly open to the width of their hips, their knees slightly flexed. Their bodies are straight but relaxed.

They will visualize the air they breathe as if it were a color.

Each time they breathe, they feel how the air flows in and out of their nostrils.

They inhale and imagine that color entering their body. They hold the air in for two seconds.

They exhale and visualize how that color leaves their body in a cloud.

They repeat the breathing two or three more times. They can change the color they visualize.

They open their eyes and sit back up in a circle.

B. Visualization Exercises

B-01. A Grid of Complementary Contrasts

- On a square piece of paper, draw a grid with 8 x 8 squares.
- Select two complementary colors.
- Fill every square with each of the colors that you decided to use for the contrast. (Ask the students to explore combinations of complementary contrasts in the grid.)
- Use one combination for each grid; in other words, only two colors must be used in each grid. There can be different levels of saturation for each color.

The result will be an exploration of the notion of complementary colors through the creation of a mosaic pattern.

B-02. Spring – Summer – Autumn – Winter

Students will create the color combinations they wish on a square grid with 8 x 8 squares. Each grid must follow a season of the year: spring, summer, autumn and winter. In total there are four grids, one for each season.

From this exercise, each student can see their subjective identity related to the color.

During the review, all the students look at each other's exercises and have a group discussion on whether they see a relationship between each student's chromatic choice and their personality.

B-03. Monochrome Journey

Adapted from an account by architect Juan Álvaro Chávez Landa.

The students are lying on the floor or seated with their backs against the wall. They can also be sitting on a chair, if they prefer to do so.

Everyone can choose their place in the classroom and the posture they will assume, but it must be comfortable and safe so that they can relax. It's advisable that their heads are not lower than their feet, so as to avoid blood rushing to the participants' heads. It's also advisable that they do not lie on an elevated surface. It must be a safe space in order to relax.

They must shut their eyes.

Students are asked to take a deep breath; they inhale in a count of four and exhale in a count of four.

The students imagine their classroom or the space they are in.

They imagine a point in space of a color they like.

They visualize the point of color beginning to grow until it looks like a sun, and the space where they are begins to take on that color. They imagine their classroom completely covered with that color: the floor, the ceiling, the walls, their silhouettes, the silhouette of their classmates, small objects, the tables and chair—they are all bathed in that monochrome color.

They observe how the light is reflected on those objects; they imagine how all their belongings are now of that color, how the light and each material reflects the color in a different way.

They visualize their body in that color and feel how the air flows in and out of their nostrils.

They keep imagining the entire space with themselves and their classmates of one same color, and now visualize the hallway outside with that color, the other classrooms, the other students walking down the hallways. Now the whole school begins to be washed over by a single color.

As they breathe, they feel the air flowing in and out of their nostrils.

They imagine the whole school in a single color, the gardens, the plants; they imagine the streets in the neighborhood where their school is located all bathed in one color.

They imagine the streets, trees, pets, buses, and they concentrate on visualizing the details of these surroundings, all in a single color.

Finally, they imagine their city bathed in a single color: parks, their favorite café, sidewalks, flowers, gutters, trolleys, the subway, buses, and cars, all in the same color.

They hold this mental image of their city in a single color and they slowly imagine making their way back to the classroom. The entire journey is monochrome. They travel in vehicles of a single color; in the subway, everything is bathed in that color; people, buses, cars, sidewalks, all in one color.

They feel how, as they breathe, air flows in and out of their nostrils. They slowly visualize the school, the door in a single color, the hallways, stairways, walls, until they reach their classroom, with their classmates, all monochrome. They visualize the monochrome details of their classroom.

Little by little they imagine that a point in space begins to swallow up the color, like a black hole devouring the monochrome color until their classroom is once again of many colors. They feel how, as they breathe, air flows in and out of their nostrils. They imagine their classroom and their body in the classroom and when they hear the sound, they slowly begin to sit up.

Note: According to the interview with Juan Álvaro Chávez Landa, Goeritz described an entire journey from Mexico to Cuernavaca painted in orange. There's another anecdote told by Javier Senosiain in which Goeritz constantly mentioned that he wanted to paint the Doctores neighborhood in Mexico City magenta to make it less ugly. During the Olympic Games, the floor

of the stadium at the university was painted in orange and magenta stripes. The facade of Goeritz's house in Cuernavaca (circa 1970) was painted yellow, the sidewalk orange, and the metal gate was black.

B-04. Bach

This exercise is based on an account by architect Antonio Gallardo, one of Goeritz's students, as well as on the exercises of Goeritz's students in Guadalajara published in *Arquitectura México* magazine, number 101 (October 1969).

For this exercise, the teacher must have an audio player and a recording of Johann Sebastian Bach's *Brandenburg Concertos* or other musical pieces by him.

Students are asked to close their eyes and take three deep breaths, imagining a white square on a white background. They inhale and think of the square, and as they exhale they think of a white square inside another white square.

The students can open their eyes or keep them closed, but they must listen to the Brandenburg Concertos or any other piece by Bach. Simply listen.

After listening to the musical piece, they must now translate what they heard into a bi-dimensional representation. They will use India ink in one color and trace a single shape that they can repeat in different scales, with which they will represent the sensation obtained from the music.

B-05. Visualization Starting from a Geometric Shape

The activity begins with a breathing exercise during which three geometric figures are made visible: an equilateral triangle, a circle and a square.

Each shape is assigned a possible primary color of pigment. This can be:

- Triangle – red
- Circle – yellow
- Square – blue

- Triangle – yellow
- Circle – blue
- Square – red

- Triangle – blue
- Circle – red
- Square – yellow

As they inhale, they imagine a triangle in one of the three colors.

They hold their breath for two seconds and concentrate on the image.

They exhale and change the triangle's color.

They inhale and imagine a circle in one of the three colors.

They hold their breath for two seconds and concentrate on the image.

They exhale and change the circle's color.

They inhale and visualize a square in one of the three primary colors of pigment.

They hold their breath and concentrate on that color's image.

They exhale and change the color of the square.

B-06. Emotions: What Does Ascent Mean?

The exercise begins with the definition of the word by the students. They converse on mental, emotional, sensory, and rational associations with the word ascent.

- What does the word ascent feel like?

Then they create a composition on a full-sized page where they represent the notion of ascent by means of circles, equilateral triangles, and squares, with the possibility of using three colors.

This exercise can be adapted to other concepts or emotions, for example:

- What is sadness? What is happiness? What is the sublime? What is the spiritual? What is envy? What is tranquility? What is stress? What is relaxation? What is rage? What is love? What is empathy?

Each exercise on the chosen words or emotions begins with a group chat on mental, emotional, sensory and rational associations with that word.

C. Guided Exercises and Exercises of Creative Possibility

C-01. Lattice

Adapted from an exercise described by architect Luis Solís Ávila.

You will need a cardboard on the wall or a blackboard to start writing down students' ideas. A volunteer writes down the ideas that begin to arise from the following questions:

- What do bodies need in order to live?

Students begin to express their ideas about what bodies need to live.

When someone says oxygen or air to breathe, and after listening to the other ideas, ask the following questions:

- Does architecture breathe? And if so, do buildings breathe?
- How does it breathe?

Listen to the students' answers explaining how architecture breathes or doesn't breathe.

Mention the idea of latticework to them: Do they know what latticework is?

- Breaking up into teams, describe what latticework is.
- Today we will work on the notion of positive and negative, starting from the grid, the background, and the figure. This notion is related to the image of latticework.
- What is a grid?

Listen to the students state their ideas about what a grid is. Write down their ideas on the blackboard or on a cardboard where everyone can see them.

- Does a grid have to be homogenous or can it have variations?
- What is a figure?
- What is the background of a figure?
- In what ways do the background and the figure interact on a grid?
- How do the background and figure play on our perception?

Starting from the ideas discussed by the students, they will work individually with a letter-sized piece of paper on the notion of the grid and positive and negative space.

The exercise is similar to the notion of latticework.

Instruct the students to produce a paper grid on a letter-sized piece of paper by folding it.

After producing the grid they like, they will think of the negative and positive spaces within it.

Starting from the structure of a grid created from folds on the paper, they will make cuts with a box cutter. They will decide which parts of the grid they will take out and which they will leave—in other words, the way in which they can integrate

the concept of positive and negative to their paper by means of cuts.

The students create their grids with cuts and then mount them on a paper of another color that will serve as a background, and then will take them to a table in the middle of the room so that they can all see each other's work.

On the table, they will observe the different solutions to the exercise provided by their classmates.

They will discuss which ones seem better done and explain why.

C-02. Latticework in a Team and Larger Size

Once the individual exercise is finished, participants count from one to four to form four teams. Each student has a number and each team is formed by that number. The teams choose the latticeworks they liked so that they can start from them, and then select a design they will do in a larger size among all the team members, on kraft paper or cardboard.

Enough time is given so that they can decide on the new design starting from the latticework they made, and create it in a large version among all. They must consider that cardboard or kraft paper is different from a piece of paper. Each material has its own qualities and different scales, which implies variations in the results. If a team finishes before the others, they can help another team.

In the end, each team mounts their exercise on the wall and they all discuss the different latticeworks, as well as their own work dynamics in the team.

- How did they get organized?
- What problems emerged?
- How did they solve them?
- Were there conflicts?
- How would they improve the process if they did it again?

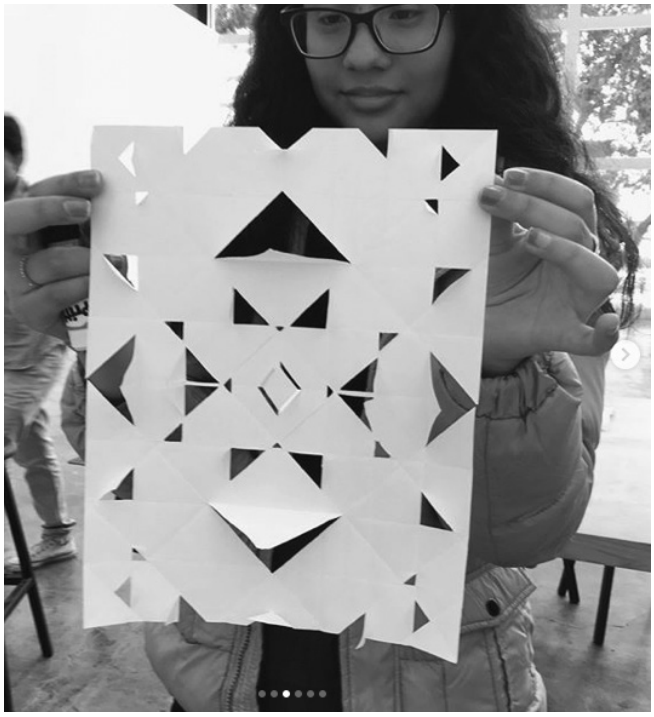
C-03. Exercise for the Whole Group After the Latticework or Grid Exercise

The collective mosaic is an exercise that broaches the concept of module and pattern.

This exercise is the continuation of a previous activity that introduces the concept of positive and negative through a letter-sized paper latticework that each student created.

After having generated the latticework exercise starting from a grid and cuts, the following is a collective exercise based on the notion of a module.

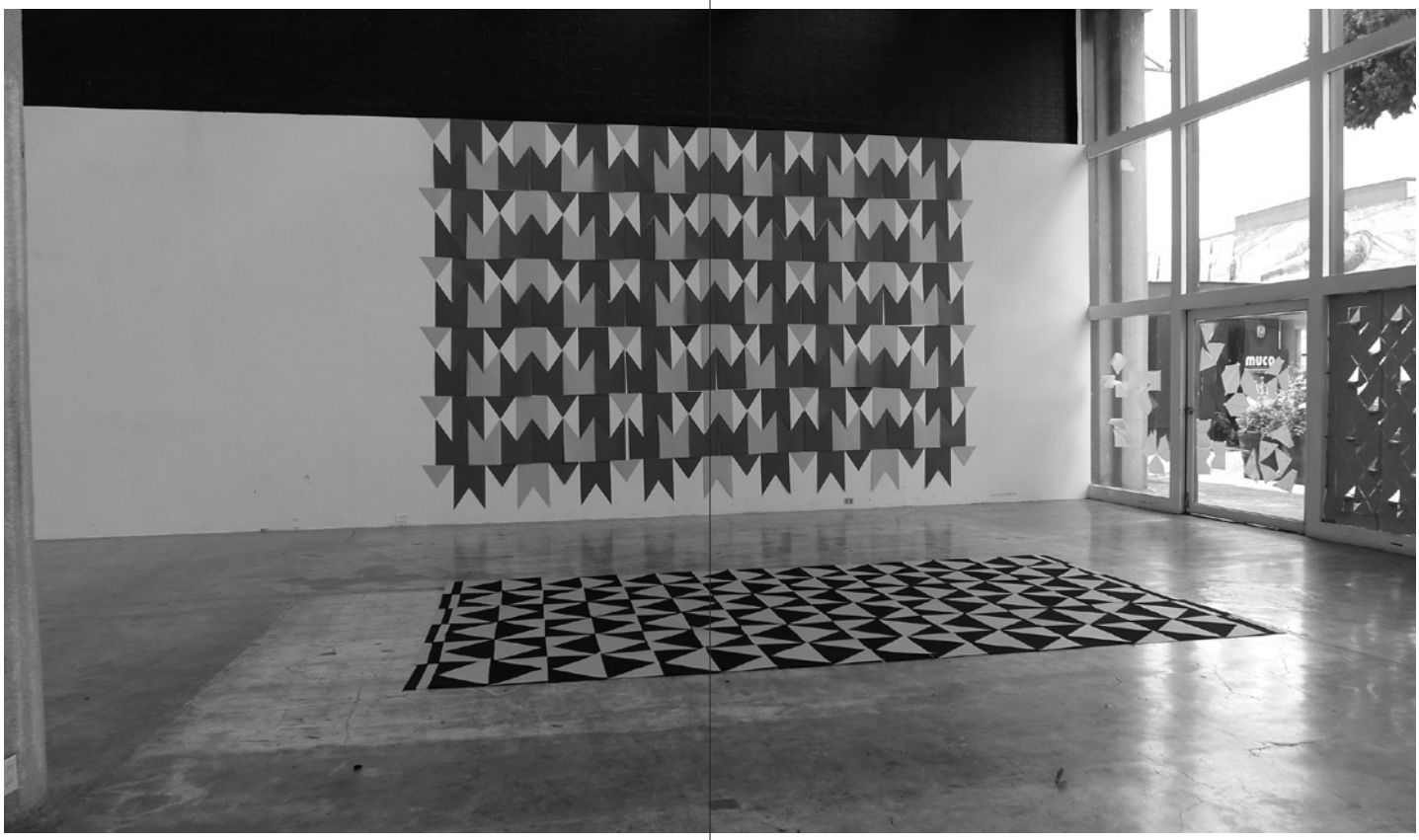
Each student is asked to cut a letter-sized piece of paper in such a way that they obtain the largest-sized square in that format. Each student has a square that is approximately 21.6 x 21.6 cm. The student is asked to make a fold and two cuts on that square paper to generate a module. All students place their modules together at the front of the room, and through voting and negotiations they choose two modules in order to all together create a monumental structure composed with those two modules, but this time in felt or color cardboard. Two colors should be used to integrate contrasts. It should be possible for each module to be created with a fold and two cuts.



After choosing the two modules that they will repeat several times, as well as which color will be used for each (in this case there are two colors), the students split into two teams in such a way that each one cuts the modules of one color.

Suggest that students get organized in such a way that they can carry out the work in the most fluid, comfortable way. If one team finishes first, they help the other team. The students set up the modules in the space they chose for doing that.

An unforeseen circumstance arose on one occasion in Guadalajara. The day of the exercise the wind was very strong and was lifting the felt modules off the floor. The students had to improvise a solution. They noted that other students that were working on stone sculptures had a lot of leftover material with small white stones that could be visually lost on the bone-colored cloth. They were able to prevent their collective mosaic from flying away with the wind with an improvised solution in which they resorted to surrounding elements.



In the end, a group debate is organized where participants comment on how they got organized, what difficulties they had and what things they would improve if they did it again. Ask them:

- How were they able to communicate in a group?
- How could collective communication improve?

C-04. Lines And Rhythm

For this exercise, the teacher or facilitator must have an audio player and select two music tracks that are very different from each other. One can be calmer and more abstract, and the other one faster and more melodious.

A volunteer (preferably one with legible handwriting and good spelling) writes on the

blackboard, on cardboard, or on a paper visible to all in such a way that the students can read it. The answer to the following questions is written down, with which the exercise begins:

- What is a line?
- What kinds of lines do you know?

Participants write down the different answers and illustrate the different types of lines they know.

Then, the students are asked:

- What is rhythm?
- Is there rhythm in images?

They write down the different answers on the relationship between rhythm and image.

Then the next step in the exercise begins.

Before each exercise, each student must have two sheets of paper and one or two felt-tip pens next to them, in order to do the first and second version of the exercise.

Students are requested to relax on the floor or to sit with their backs leaning against the wall or on a chair. They must be comfortable and secure. Next to each student, there must be a letter-sized piece of paper and a felt-tip pen of any color, right at hand.

The students close their eyes. They are given the following indications:

They must listen to a song fragment and visualize with lines what they are listening to.

The teacher plays the song or fragment. It's repeated two or three times.

Students are asked to open their eyes and draw the song with lines on the paper they have next to them.

Then they repeat the same exercise, but with another very different song or melody, in such a way that they can represent contrasts through the same format.

In the end, in two sections (one per song), all the students' exercises are placed where they can be observed and a group conversation can be held on the qualities, similarities, and differences among their drawings.

C-05. Names: An Exploration of the Concept of Line and Movement

Based on the exercise on the types of lines and music, each student will translate into lines the way their name sounds. With this representation—the sound of their name in qualities of lines—the student will do a choreography where they will dance out the shape that their name sounds like to them, as if they themselves were drawing lines in the space. Each student does a translation of the sound of their name into body movements.

C-06. Tension and Balance with Paper

This exercise deals with the concepts of:

- Tension – balance

Letter-sized pieces of paper are needed for this exercise, as well as a blackboard or carboard for writing down the students' answers.

First, the question is posed:

- What is tension?

The students' ideas are written down. From these ideas, each student will do the following exercise: With a letter-sized paper, through folding, they will build a three-dimensional structure that represents their idea of tension.

When they finish, they set the exercises in a place where they can all see them and comment on them.

Then they will ask:

- What is balance?

The students' ideas are written down on the chalkboard or on a piece of cardboard.

From these ideas, each student will represent the notion of balance with a letter-sized paper and by means of folding. They can also take into account the contrast between the ideas of tension and balance.

When they finish, all the exercises on the subject of tension and all the exercises on the subject of balance are gathered together.

Each student chooses an exercise that is not their own in order to speak about how tension or balance can be understood through it.

C-07. Contrast Of Materials

The students are sitting in a circle. The class begins with these questions:

- What is a contrast?
- How is a contrast generated?
- Are there tactile contrasts?
- What are they like?

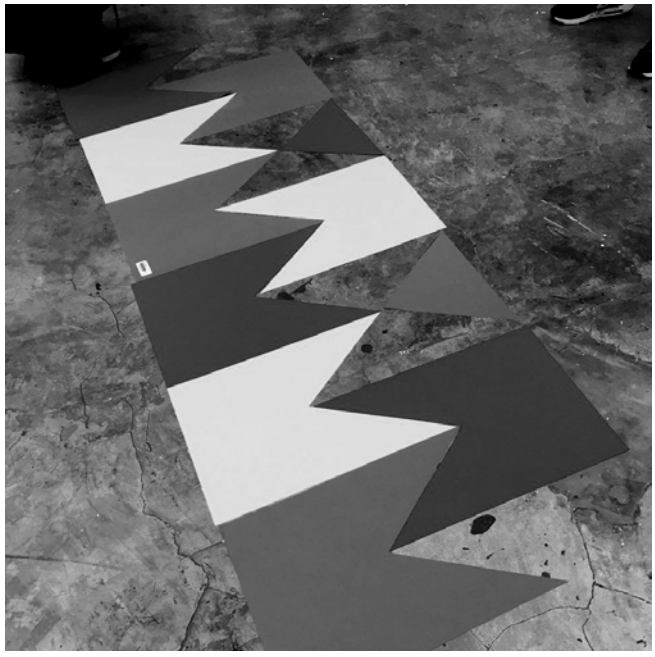
Starting from the notion of contrast about which they exchanged ideas and through the combination of two materials (these can be waste materials or parts of materials for reusing and recycling) they must create two examples of contrasts.

On a letter-sized format (cardboard) they will do a tactile contrast with two materials: in other words, a combination of one texture with another one that generates something because of their difference.

After doing the exercises, a few of the students must “feel” the exercises with their eyes closed; after feeling them, they will open their eyes and look at them. They will speak about the difference between what they imagined when they touched without seeing and what they saw.

The exercise closes with a discussion on the relationship between touch and sight, eyes and hands, and the possibility of “touching with the eyes.”

This exercise can grow so that students do tactile tables with three or more tactile contrasts. The idea is for them to experience the tactile tables with touch, imagination, and sight.



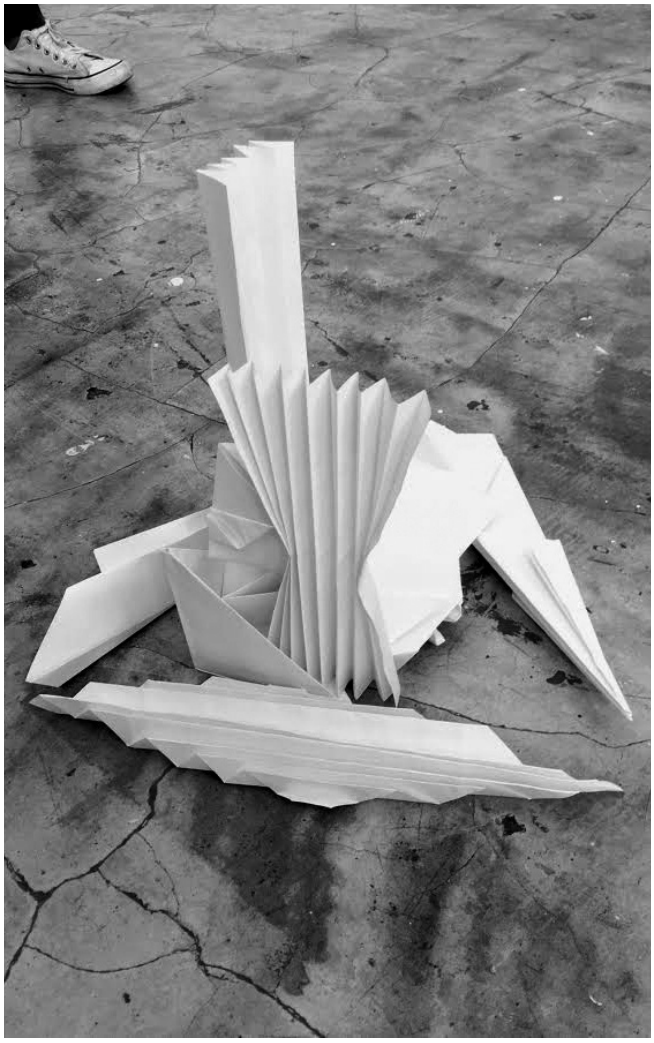
C-08. The Tower of Babel

Exercise from a description by architects Luis Solís Ávila and Javier Senosiain.

Exercise:

- What is a tower?
- What is a Tower of Babel?
- What is the story of the Tower of Babel and what issues does it address?

From the notion of the Tower of Babel, each student will participate in a three-dimensional exercise in which they will create a Tower of Babel. They are not allowed to reproduce the typical tower represented on the painting by Brueghel the Elder.



In the end, they all look at each other's exercises and comment on the achievements and areas of opportunity for each exercise.

In this exercise, spaces, structures and problems can be adapted that are related to the context where the exercise takes place, or the interest of students and their surroundings. For example: What is a
park? What is a good public space? What is an orchard? What is a space for spending time together?

The Visual Education of Mathias Goeritz: Bauhaus, Moholy-Nagy and Kepes by Way of Background

Sandra Valenzuela A.

The twentieth-century artists who transformed art education wanted art to contribute to social regeneration. An example of this preoccupation is Walter Gropius's *Bauhaus Manifesto* (1919), which was influenced by De Stijl, by Peter Behrens's ideas on the social function of art, and by the November Group and the Vkhutemas Russian school.

For the purposes of this text—which focuses first on the Bauhaus's introductory course and then deals with its impact on Goeritz's teaching at the UNAM—I will begin by addressing how the Bauhaus under Gropius's direction established a new teaching structure for visual education, and I will then explain Moholy-Nagy's new vision, since it is the one adapted by Goeritz for Mexico. The aim is to develop this background in order to understand Goeritz's teaching approach—art with a social function or art as service—and, lastly, to describe the methods he used in class.

Keywords: Visual education, Modern Mexico, Design I and II, Bayer and Albers.

Mathias Goeritz[1] was born in Danzig, Germany, and grew up in Berlin. He didn't study at the Staatliche Bauhaus, however, as the school was inaugurated when he was four years old (1919).[2] He was an artist that worked with different Mexican architects, the creator of monumental sculptures, and famous for popularizing the term "emotional architecture." In Mexico, he adapted the structure of the Bauhaus introductory course, with which he launched syllabi in four higher education institutions,[3] and from his arrival in Guadalajara in 1949 until his death in Mexico City in 1990 he taught the first-year class on Visual or Plastic Education (Surface and Volume), also called Design I and II. He mingled with renowned artists directly associated to the Bauhaus, such as Herbert Bayer and Anni and Josef Albers; with other close members of the Bauhaus, such as Sheila Hicks, György Kepes, Alexander Calder, Frederick Kiesler, and Raoul Hausmann; and with celebrated artists such as Philip Johnson, Charles Eames, Henry Moore, and Ad Reinhardt. He showed his work in New York, Paris, Amsterdam, and Jerusalem, among other places.

Although the Bauhaus only operated between 1919 and 1933, it continues to influence education in the arts, design, and contemporary architecture. Motivated in part by the atmosphere of crisis and chaos in Germany after World War I, Walter Gropius, its founder, propounded for the Bauhaus an "avoidance of all rigidity; priority of creativity; freedom of individuality, but strict study discipline" (Gropius, 1919). During the Bauhaus phase of constructivism (1923-1928), László Moholy-Nagy considered that, for humanity's sake, peace should be made with

1 1915-1990, co-creator of the Torres de Satélite, Espacio Escultórico, and Museo Experimental El Eco, among others.

2 When the school closed in 1933, he was 18 years old.

3 First, in Architecture at the University of Guadalajara (UdG); then, with the inauguration of the UNAM's National School of Architecture at the Ciudad Universitaria campus; the Art and Architecture program at the Universidad Iberoamericana; and the Architecture program at the Autonomous University of Morelos (UAEM).

machines—those assassins in the trenches—a matter which required dialogue between artists and artisans with industrial production methods.

The Bauhaus innovated in teaching in the arts and design with a propaedeutic course that changed its name several times: the Vorkurs. Its pedagogical structure fostered experimentation and self-expression through simple elements such as lines, points, volume and color, all related to the purpose of generating something complex and developing students' abilities by getting them to know and handle materials. With the Vorkurs, pedagogical approaches were popularized that linked character building with visual education and the social function of art with total design. Goeritz adapted these ideas to Mexico, where he participated in the dissemination of art as an existential, political and commercial key. The Vorkurs was first taught by Itten (1919 to 1923); then, in a session with László Moholy-Nagy and another one with Josef Albers (from 1923 to 1928); and finally it was taught only by Albers until 1933. When Albers and Moholy-Nagy taught the Vorkurs, Kandinsky and Paul Klee were teaching one-hour-a-week sessions as part of the introductory curriculum (Whitford, 1995, p. 167). Students had to let go of prejudices to explore their own reactions to form and to the surrounding world. By means of play and exploration they acquired knowledge about the universal materials and concepts of design (Itten, 1965). Moholy-Nagy was Itten's successor and even though he wasn't his student (unlike Albers), he recognized Itten's influence on the early version of the course and adapted several of Itten's ideas for his class.

The implicit idea in this pedagogy was that a student could understand better by going from the simple to the complex, and could create images and structures from basic elements. Lerner (2005, p. 2016), Wilson (1967) and Armytage (1952) suggest that Friedrich Froebel's method influenced the training and instruction of artists associated with the Bauhaus, such as Wassily Kandinsky and Johannes Itten. The

Staatliche Bauhaus, a state-funded school, was seeking "an architecture adapted to our world of machines, radios and fast cars, an architecture whose function is clearly recognizable" (Gay, 2007, p. 307). It proposed harmony through the integration of all art forms into a new pedagogy that, under the premise of the total work of art, posited the building as a utopia, seeking for artists to be integrated in society as producers of "useful art" and to contribute with their works to people's quality of life. The Bauhaus was not monolithic or static but rather plural and changing, always affected by the political changes and crises of the Weimar Republic, as well as its own infights. The school had three phases defined by its location of residence, which corresponded to three directors: The first one in Weimar and Dessau, with Walter Gropius (1919-1928); the second one in Dessau, with Hannes Meyer (1928-1930), and the third one in Berlin, with Mies van der Rohe (1930-1933).

According to Herbert Bayer—a student and teacher of the Bauhaus—what united the teaching of all the different instructors at the Bauhaus when directed by Gropius (1919-1928) was that the exercises stemmed from the students' creative capacity. Bayer wrote that the method of teaching, albeit in constant evolution, was always based on the "inductive method," which allowed students to reach their own conclusions through observation and experience (Bayer, Gropius and Gropius, 1938). Exercises went from the "inside out," and this impulse was enriched through an awareness of the "outside in," incorporating an understanding of space, material, and function (Bayer, Gropius and Gropius, 1938). According to Bayer, theoretical teaching consisted of discussions with the master of form on organizations, systems, and psychology of color, related to Kandinsky's *Concerning the Spiritual in Art* (Whitford, 1995, p. 95 and Droste and Friedewald, 2019, p. 64).

At the time, it was common for artists and intellectuals to be interested in non-European religions. Itten was interested in yoga and

Mazdayasna, and at the beginning of each class would teach his students breathing exercises in order to have them reach a physical and spiritual state that would allow them to solve problems of self-expression. In this sense, he wrote: "The training of the body as an instrument of the spirit is of great importance for the creative human being" (Itten, 1965, p. 105). Therefore, after the breathing and relaxation exercises he would introduce problems for students to approach contrasts, tonal values, textures and so on, which would allow them to explore materials and colors, as well as foster their self-expression with exercises with clear instructions (Itten, 1961). Another exercise consisted in analyzing large works by great masters through universal concepts, considering sensuous, intellectual and spiritual elements with which students could relate the works (Lerner, 2005, p. 215). Through those contrasts and sensations, Itten was looking for his students to understand universal concepts in order to develop personal proposals (Wiedemeyer and Holländer, 2019).

Itten and Klee resorted to "polar contrasts" or intellectual couplings (big/small, long/short, wide/narrow, straight/curved, thick/thin and so forth) where "the students had to present these carious contrasts, separately and in combinations, in a manner that allowed our senses to perceive them convincingly" (Itten, 1965, p. 105). They considered that all concepts are more easily understood with their opposite (Klee, 1953). Klee and Kandinsky (1947) proposed the point as an element that produced different types of lines that generated planes. Klee described the line as a point in movement and a drawing as "taking a line for a walk" (Lerner, 2005, p. 218; Klee, 1953), and he fostered an understanding of unity through the sensation of totality obtained by observing nature, which helped the students develop a spatial understanding of the object (Whitford, 1995, p. 74).

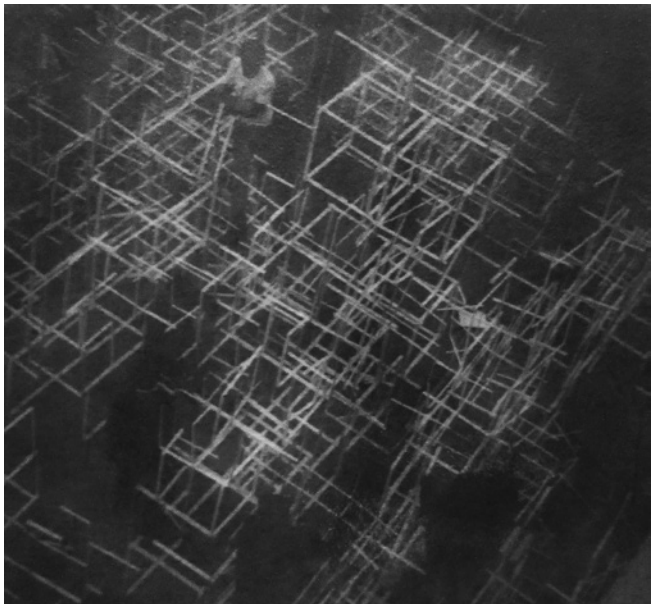
Kandinsky focused on explaining the relationship between basic forms, primary colors and emotions

(Kandinsky, 1947). Color was explained starting from different systems and disciplines: "Color, like all other phenomena, must be examined from different viewpoints, in different ways, and by the appropriate methods. From a purely scientific point of view, these ways may be divided into three areas: that of physics and chemistry, that of physiology, and that of psychology. [...T]he first area deals with the nature of color, the second with the external means of perception, and the third with the results produced by its internal effect. [...T]hese three areas are equally important and indispensable for the artist" (Whitford, 1995, p. 82). According to Kandinsky, the Bauhaus's aim was to unite areas that used to be thought of as separate.

Josef Albers taught students the simple, elementary handling of materials. The aim was for students to understand their qualities, the relationships and differences between them; in other words, to generate an understanding of the properties, the principles of construction and perception from the contrasts between materials. Later, at Black Mountain College, Albers developed a method for "opening the eyes" of students (Horowitz, 2006) and training them through exercises and colored papers to understand that color is elusive: since colors are never perceived in isolation, each one changes depending of its interaction with others. He developed this notion in *Interaction of Color* (Albers, 1963).

Moholy-Nagy[4] taught at the Bauhaus in Weimar and Dessau, where he also published books. In 1927, when Gropius left the Bauhaus, Moholy-Nagy also left Dessau and opened his studio in Berlin. With the rise of Nazism he moved to Amsterdam and then to London, where—on

4 László Moholy-Nagy was a Hungarian artist, a teacher of the Bauhaus and an innovator in visual education. He did photography, cinema, kinetic sculpture, photo collage, books and exhibitions, stage design, consultancies for industrialists, and brand identity, among other things. He died in 1946, three years before Goeritz arrived in Guadalajara as a teacher.



Mathias Goertiz's Visual Education workshop, unknown author, *ca*. 1950-1953. Source: ICC.

the recommendation of Gropius and Walter Paepcke—he opened the New Bauhaus in Chicago, although it closed because of lack of funding in 1938, after one year. In 1939, with Walter Paepcke's financial support, he inaugurated the Chicago School of Design, which became the Institute of Design in 1944. In 1949, three years after his death, the Institute of Design was incorporated to the Illinois Institute of Technology (Engelbrecht,

2009; Moholy-Nagy, 1950). In his book *The New Vision, from Material to Architecture* (1932) he developed a pedagogical system based on the Bauhaus, and in *Vision in Motion* (1947) he developed the ideological foundations of the New Bauhaus and the Chicago Design Institute (Allen, 2002, p. 66).

For the Bauhaus introductory course, Moholy-Nagy believed that encouraging multidisciplinary thinking helped collective improvement, as students that learned to solve challenges would contribute to the creative development of future generations. In 1926, when Lucia and László Moholy-Nagy were living in Bauhaus Dessau, they were interested in biocentrism, which posited that human beings could develop their biological capacities through the senses, emotions and reason:

> From his biological being every man derives energies which he can develop into creative work. *Everyone is talented*. Every human being is open to sense impressions, to tone, color, touch, space experience, etc. The structure of a life is predetermined in these sensibilities. But only art—creation through the senses—can develop these dormant, native faculties toward creative action. Art is the grindstone of the senses, the co-ordinating psycho-biological factor. (Moholy-Nagy, 1928 and 1932, quoted in Whitford, 1995, p. 167).

In his exercises, Moholy-Nagy asked his students to create tables or compositions using different textures and materials. The objective was that by means of sensorial contrast students would become more aware of their senses and the properties of the materials. According to Moholy-Nagy (1932), in the Bauhaus students studied material by means of touch (Dussel, n.d.). The tables were meant to gather different sensations through the qualities of each material, and, since touch is the means for experiencing pressure, temperature, and vibration, it's a good way of approaching materials and building a base in order to later carry out technical and

artistic works (Moholy-Nagy, 1932, p. 24). The relationship between touch and sight—the hand as a link to the world—was important in the work and teachings of Moholy-Nagy and Goeritz. Moholy-Nagy also proposed linking creative experiences not only in an individual sense but in a collective one, and for this reason art would have to be taken down from the pedestal, as it had to be a matter of community:

> We are therefore much less interested today in the intensity and the quality of expression of "art" than in the elements that determine, with the force of ruling law, our function as human beings and the forms it takes. Thus our efforts at present, especially in the field of education, must be directed to the ultimate aim of entering again into possession of the heritage of human experience. This does not mean that "art" must be cast aside, nor that the great individual values within the domain of art are to be questioned. Quite the contrary—it is precisely these values which are firmly anchored in the elemental. But this fact is obscured for the majority by [...] our tendency to place art on a pedestal (Moholy-Nagy, 1932, p. 8).

His teaching was focused on mechanisms for an integral development of the individual. In *Vision in Motion* (1947) he emphasizes the importance of the emotional milieu to stimulate creativity during the formative process. Visual education and the teaching of the arts are ways of leading emotions towards high-level expressions. Bringing together the intellectual and the emotional in a balanced game, through sensitization and creative experimentation, allows us to aspire to "feel what we know and know what we feel" (Moholy-Nagy, 1947, p. 11).

In *Vision in Motion* he wrote that the artist disentangles the complexities of existence and weaves them into an emotional fabric that will be the support for their work. Moholy-Nagy believed that intuitive capacity wasn't something exclusive to artists but appeared in poets,

scientists and philosophers. That is why he promoted an organic functionalism that didn't just obey material and technological questions, but biological, psychological and social ones (Findeli, 1990). He emphasized the importance of intuition for the constructive processes of design, which, according to Findeli (1990), has its origins on Goethe's gaze on the natural world. Moholy-Nagy was the first one to enunciate that everyone is talented, since everyone can develop their creative forces. Developing the senses and emotional and rational structures is the foundation of the creative person.

The relationship between art, the artist and emotions was one of the pedagogical cornerstones for both Moholy-Nagy and Goeritz. The former's first two books[5] and *Language of Vision,* by Kepes, suggest that senses and perception must be developed in order not to see isolated objects but the relationships generated from these objects and their interactions. S. I. Hayakawa develops this idea in the introduction to Kepes's *Language of Vision* (1969). Moholy-Nagy's ideas were adapted in the United States by György Kepes, with whom Goeritz corresponded in the late sixties and early seventies.

In texts on study plans where Goeritz participated and in articles such as *La educación visual* (Goeritz 1961, in Cuahonte, 2015, p. 68), Goeritz explains that the instruction method for his class was based on Moholy-Nagy and on the books of György Kepes. The influence of Moholy-Nagy on Goeritz's teaching is captured in interviews, in his texts, and in those written by his students.

According to Galetar (1977, p. 74), however, although Goeritz mentioned Moholy-Nagy as an inspiration, the philosophical foundation of his class was actually Johannes Itten: like Itten, Goeritz used pairs of opposing concepts, such as objectivity-subjectivity, intuition-method, and also gave the students enough time to be

5 This refers to *The New Vision*, from 1932, and *Vision in Motion* (1947), by Moholy-Nagy.

able to finish their exercises at home. Sessions at school weren't usually meant for production but for presentation and analysis; in contrast with Itten, however, Goeritz didn't teach the works of great masters, but rather emphasized the learning of form and composition through the use and combination of elementary figures (circle, triangle, square). This understanding of form had to be balanced with an understanding of and sensibility for the subject by means of an essential understanding of the materials, which was a close didactic approximation to Josef Albers (Horowitz and Danilowitz, 2006). There were also exercises with terms such as energy or transparency in which students had to express those concepts visually through the use of certain materials.

Like Itten, Goeritz sought to develop students' creative personality and, according to the interviews with his students, suggested activities that posited universal concepts, sometimes starting from opposites (polar contrasts), with instructions for doing exercises that linked a concept with a material and specific problems. "[I]n the educational program forged at the Bauhaus, [...] the design of forms and the design of self fully merged into one" (Çelik Alexander, 2017, p. 186). In an interview, Lilly Nieto Belmont[6] (Interview with Lilly Nieto Belmont, January 27, 2017) said that Goeritz used the *Education of Vision* compilation and gave particular relevance to Johannes Itten's essay "The Foundation Course at The Bauhaus" (Kepes, 1965). Like Itten, Goeritz considered spirituality to be one of the loftiest emotions. He addressed its relationship with ethics and morality in art in texts such as *Arte y arquitectura* (Art and Architecture) (1969), where he wrote that the foundation of the great constructions of the past was spirituality, and hence magnificent cathedrals and pyramids were built.

According to Luis Porter Galetar, Goeritz—inspired by the legacy of Moholy-Nagy, but also

6 Lilly Nieto was the coordinator for Goeritz's Design I and II class at the UNAM between 1968 and 1990.

based on Mexican reality, to which he adapted his methodology—"added the philosophical, ethical element, not theoretically but in the human and social dimension that is a constant in his work" (Galetar, 1997, p. 70). One of the features that links Goeritz's visual education with Kepes's language of vision and Moholy-Nagy's new perspective is that all three artists believed that art could contribute to a better world. Via Kepes, Goeritz adapted Moholy-Nagy's and the Bauhaus's ideas to the Mexican context. In Goeritz's words:

> [...] what is most admirable of György Kepes is the marvelous, selfless, perhaps absurd persistence with which this man, through his activities as a whole, tries to *save the world* by wanting to create a clean, just environment, forever in search of a foundation upon which men of the future can build works that are equal to the pyramids or cathedrals of yore (Goeritz, 1971, p. 71)

The bibliography for the 1967 syllabus for the Basic Design I and II class taught by Goeritz at the UNAM's National School of Architecture (ENA, 1967) includes the books *The New Vision* and *Vision in Motion* by Moholy-Nagy and *Language of Vision* by Kepes. On the relationship between Goeritz and Sibyl Moholy-Nagy,[7] Carlos Raúl Villanueva (Correspondence, 1970, ICC, V164) writes in a letter from October 9, 1970 that "in [New York] with Sibyl Moholy-Nagy we have spoken much about you [Goeritz] and the possibility of meeting at another time."[8]

Moholy-Nagy, Albers, Bayer, Kepes and Goeritz shared a concern for reintegrating art into society, for restoring its function in everyday collective life, with the purpose of sensitizing individuals by developing their different potentials and fostering an integral vision of the self. They were against the idea of art for art's

7 The translator of several books on the Bauhaus into English, as well as László Moholy-Nagy's widow and biographer.

8 Archivo Cabañas, Correspondence 1970-1978 V-164.

sake,[9] which encouraged the isolation of art with regards to society and its transformation into a luxury object for the elites. All three believed that art should respond to the problems of its time (Findeli, 1990).

In *Education of Vision,* Kepes (1965) sought to increase students' creative conscience by educating vision. One of the key ideas is that reason and the act of seeing are intimately linked to emotions, which means that the arts and sciences are kindred fields. In his compilations, Kepes linked disciplines and authors through concepts he formulated as universal. His basic premise came from the relationship between art and science conceived by Klee and Kandinsky, which reached Kepes through Moholy-Nagy. During the second half of the twentieth century, Kepes continued with the idea that vision is our creative answer to the world and a key tool for the creative process. For him, perceiving an image meant participating in a formative process, as our visual experiences are formed through the world around us (Kepes, 1965).

Juan Álvaro Chávez Landa, an architecture student of Goeritz's at the Autonomous University of Morelos (UAEM), mentions a class of his in which he spoke of camouflage clothing and the relationship it could have with certain colors (Interview with Juan Álvaro Chávez Landa, March 8, 2018). Camouflage was also a relevant subject for Moholy-Nagy and the School of Design: in December 1941, Edward J. Kelly—mayor of Chicago at the time—appointed Moholy-Nagy to the committee in charge of researching how camouflage could protect the city from

9 The statement "art for art's sake" is a reference to the preface to Oscar Wilde's *The Picture of Dorian Gray* (1890), which suggests that art has no other function beyond existing and therefore is useless. It is also related to the understanding of the field of art as something autonomous that shouldn't have any function. Marcel Duchamp's notion of art as an idea emerges from this statement. The opposite to that line of thought is art with a social function or art as service, a notion related to the writings of Mathias Goeritz as well as the critic Ida Rodríguez Prampolini.

possible war attacks. That was why Kepes began teaching a course on camouflage from September 16, 1942 to January 13, 1943 with seventy students. Its success sparked conflicts with Moholy-Nagy and led to Kepes leaving the School of Design and heading to North Texas State Teachers College (University of North Texas, Denton). Despite the conflict, Moholy-Nagy included Kepes in the text and images of his last book *Vision in Motion*, and he was an important mentor figure for Kepes (Engelbrecht, 2009, pp. 598, 601).

At the Archives of the Instituto Cultural Cabañas (ICC) there are letters from Kepes addressed to Goeritz: in the first one, from May 11, 1967, Kepes (1967) mentions an invitation Goeritz had turned down because of other obligations; and in the second one, dated February 9, 1972, Kepes thanks Goeritz for sending him the issue of *Arquitectura* magazine devoted to his work, and suggests the possibility of organizing a conference at MIT, although he made it clear that MIT was "too poor to invite you for a single occasion, but if you are in this country it would be a great treat to have you." (Kepes, Correspondence, 1972, ICC, K77)

In 1967, thanks to arrangements made by Goeritz and other teachers, the first-year architecture students at the UNAM attended the Expo 67 international exposition in Montreal, and on their return trip they visited Boston and New York (Interview with Luis Solís Ávila, July 13, 2017) and—on Goeritz's suggestion, purportedly—dropped by MIT to visit Kepes. Luis Solís Ávila recounts that they spoke to Kepes and they were given a tour through the labs. Kepes and Goeritz shared the notion that art should serve a collective function, and they were both interested in the problems that were beginning to emerge with urbanization and the growth of cities. Goeritz expresses it in *Arte y arquitectura* in 1969:

> If both architect and artist concentrate from the beginning on organizing ideas, shapes, and colors—from the urbanistic conception of general plans to the details that will finally create the environment of a person's dwell-

> ing—they will doubtlessly reach a loftier dimension than the one that currently exists, with the objective of dignifying human life.
>
> Precisely the task of both the architect and the contemporary artist is to try to spiritualize their era—in other words, to help find that morality, thus laying the groundwork for a greater art for the future (Goeritz in Cuahonte, 2015, p. 81).

Kepes invited Goeritz to collaborate at MIT's Center for Advanced Visual Studies (CAVS)[10] for its inauguration in 1967, but because of his commitments in managing the *Route of Friendship*,[11] Goeritz turned down the invitation and wrote the following:

> Of course, your projects interest me enormously, and I would love to collaborate. After having read your essay, I think that I would be really "just the ideal person" for this kind of collaboration. Both chapters: the "Creative Use of Light" and the "Reshaping of our Environment" are problems I am very much concerned with [...] I was most happy to see that there is not one single sentence in your article with which I would not agree. On the contrary: I am using often almost the same or at least very similar arguments in my lectures or discussions. But unfortunately there are not yet many people in this country [Mexico] who think or feel the same way. I am still pretty much an "outsider"—especially between the artists—and sometimes harshly attacked. (Goeritz, 1967, AAA, Kepes Collection, B3.21).

10 A center proposed and created by Kepes in 1967 with the aim of becoming a link between the arts and the sciences to contribute to design and to current needs by relating different disciplines.

11 This was the name of the "route" created by monumental sculptures that represented different continents and races. The route was organized by Mathias Goeritz in the context of the 1968 Olympics.

Goeritz then tells Kepes that he will speak with the director of the School of Architecture to find him some people that can collaborate:

> I would love to come there myself. But I recently accepted a pretty important job as the "Artistic Adviser" of the Olympics, which will take place in Mexico in October 1968. This can become—at least, I hope so—a great opportunity to realize some important things (in the same spirit). However, I want you to know that I am most interested to come as soon as I am again free to move. Whatever you are doing and whatever you will achieve in the direction of your "Proposal for Collaboration" interests me immensely, and I would be most grateful if you could let me know about any of your explorations and results. Thanking you once again for your kindness and interest, I am, with my best wishes, sincerely yours — Mathias Goeritz (Goeritz, 1967. AAA, Kepes Collection, B3.21).

At the CAVS, Kepes managed to foster exchanges between researchers, scientists, designers and artists, realizing Moholy-Nagy's dream of a creative, complementary relationship between the sciences, humanities, and the arts. From this perspective, Kepes created thematic compilations where different creators from different disciplines participated. Alongside their academic and artistic practices, Moholy-Nagy, Kepes, and Goeritz published magazines and books, which allowed them to generate information platforms with like-minded artists. This made it possible for them to promote their ideas on art, society and education among a wider audience.

In a letter from 1948 addressed to Sibyl Moholy-Nagy, László's widow, Kepes elucidated the subtle differences between his own pedagogical vision and Moholy-Nagy's:

> The Bauhaus emphasized the exploration of new materials, techniques, and sensory fields, such as the tactile, which was mainly a pro-

> cess of opening horizons, whereas I was more interested in organizing these new findings, and put the emphasis, as in my book, on the meaning of order in visual experience in its present social context. My approach implied that all exercises introduced in the light and color workshop and in visual fundamentals had their focal points not only in the extension of the range of visual sensibilities, but also in acquainting the students with the structural laws of plastic experiences. I always tried to refer these structural laws back to their social meaning.
>
> As you see, the differences are only differences of emphasis, and you may be able to gauge them better by checking a lecture I gave in 1939: "Education in the Industrial Society" or "The Language of Vision," particularly the last chapter, "Dynamic Iconography" (György Kepes to Sibyl Moholy-Nagy, 1948. AAA, Kepes Collection, B4.44).

In *Education of Vision,* a book that according to Lilly Nieto (Interview with Lilly Nieto Belmont, May 4, 2017) was a pillar for Goeritz's classes, Kepes (1965) sought to increase the students' creative awareness by educating their vision. He edited anthologies where he linked disciplines through universal concepts; the series of books *Vision + Value* was translated into Spanish as *La percepción visual y el hombre contemporáneo* (Visual Perception and Contemporary Man) and although it consisted of several tomes, the three most popular ones were: *La educación visual* (Visual Education)*; La estructura en el arte y la ciencia* (Structure in Art and Science) and *El movimiento, su esencia y su estética* (Movement, its Essence and Aesthetic).

These anthologies were influential books around the world and were also published in the United States, France, Japan, Hungary, and Argentina, among other places. According to interviews with students of Goeritz's from the late sixties (Interview with Luis Solís Ávila, July 13, 2017; Interview with Javier Senosiain, June 23, 2017; Interview with Lourdes García, June 6, 2018),

everyone had them. Goeritz wrote a paragraph for the promotional leaflet issued by the publishing house Organización Editorial Novaro, where he shared a space with Herbert Read, an art historian (and defender of Moholy-Nagy's legacy) who believed in the capacity of artistic education for developing a balanced personality. Read used to say that Moholy-Nagy had been one of the great teachers of our time and that "we have a duty to insure that the lead he gave is not lost" (Lerner, 2005, p. 217). He considered that Kepes's anthologies were useful for "reintegrating our contemporary milieu to the scientific, the social and the artistic [...] One of the most exciting and progressive achievements in the field of teaching." In that promotional leaflet, Goeritz wrote:

> In order to understand the profound changes in aesthetic processes and establish the foundations of teaching that can help foster a new kind of creativity, it becomes necessary to research natural and technological phenomena and other foundations of current design. *Visual Perception and Contemporary Man* is one of the works that best contributes to situating man in the right place, where art and science, by mutual agreement and away from any secular prejudices, join forces to reform and enrich our vision of the world and life. Kepes and his contributors have achieved a revitalizing synthesis. Mathias Goeritz. (Goeritz, AAA, Kepes Collection, B10.10)[12]

Moholy-Nagy's vision fostered by Kepes at the CAVS sought to integrate art to people's lives and use the structures of art and science to understand the problems of today. The books in the *Vision + Value* series successfully materialized that intention as they disseminated his influence throughout the world.

12 Promotional material for the Mexican edition of the *Vision + Value* anthology series by György Kepes, Organización Editorial Novaro, S.A. Kepes Collection, Smithsonian Archives of American Art, Printed Material / Brochures for Publications B10 F10. [In Spanish in the original.]

From July 8 to 10, 1970, György Kepes delivered the lectures "New Creative Objectives," "Language of Vision," and "Light in Art" at the invitation of the ENA's Higher Learning Division at the UNAM. Antonio Peyri, head of the Department of Architectural Design at the ENA, gave Kepes complete freedom on the subject and number of conferences. Due to his busy agenda, however, the dates changed several times, and therefore Goeritz wasn't able to receive Kepes in Mexico, since he was at the Aspen Institute for Humanistic Studies (AIHS) at the time. They both regretted not having been able to meet in Mexico or at the AIHS that year.

Through their correspondence before the conferences, Goeritz and Kepes tried to further a common agenda concerning the importance of visual education and art with regards to the problems of their time. This agenda was mediated by the AIHS, where Goeritz—invited by Herbert Bayer—was guest artist during the summers of 1970, 1971 and 1972 (Cuahonte, 2015, p. 161; Rodríguez Prampolini, 1975). From the organization of the *Route of Friendship* (1966-1968) until Herbert Bayer's death in 1985, Bayer and Goeritz were very good friends and collaborated on different occasions: conferences, seminars, designs, sculptures, works of art, and recommendations. The correspondence between Lance Wyman and Goeritz is filled with references to Goeritz's visits to Herbert and Joella Bayer's home. The three families spent time together and collaborated on several occasions (Goeritz, 1975; Bayer and Goeritz, 1979).

Arquitectura México on György Kepes and the CAVS

Issue 105 of *Arquitectura México*—Mario Pani's magazine, where Goeritz was the editor of the art section—was devoted to György Kepes and the CAVS at MIT.

In the editorial, Goeritz writes the following:

> Among current artists there are a few whose personal work is relatively little known or appreciated but whose importance in the world and for the current world is growing continuously; and, by the way, this work will be much less subjected to changes in judgement, for, at the very least, an element of SERVICE to the community prevails in it (Goeritz, 1971).

In that issue, György Kepes writes about the CAVS that: "Art and science complement each other; together they constitute the full horizon of creative mental life" (Kepes, 1971, p. 114). In order to see the world as an interrelated whole, science can use art as a support, as "artists understand and intensely feel the relationship of the whole with its parts"; for "the common denominator of artistic expression has been the ordering of vision into a consistent, complete form." (Kepes, 1971, p. 114). For Kepes and Moholy-Nagy, the relationship between art and science had to do with a human's capacity to develop to the fullest. They believed that "colors, lines and shapes corresponding to our sense impressions are organized into a balance, a harmony or rhythm that is in analogous correspondence with feelings, and these in turn are analogues of thoughts and ideas" (Kepes, 1971, p. 114). For that reason they considered that:

> One of the greatest challenges mid-century is finding models of sensibility and feeling that allow us to live confidently in the wider world. [...] Artists must make use of the social confrontations of their time, of the conceptual models of scientists, of the computers of engineers, of the arsenals of electronic mechanisms, of directional force equipment, sophisticated optical instruments. [...] The tasks that artists are called upon to do are epic, civic, social in their importance and environmental in their dimensions (Kepes, 1971, p. 116).

Kepes explains that the essence of the CAVS is a creative dialogue between artists and scientists—two fundamental aspects of life.

An Obsession with Light

One of the main subjects shared by Moholy-Nagy, Kepes, and Goeritz was their obsession with light as a material, and this was reflected in their interest in it through different disciplines. Both Hungarian artists experimented with photography, film, and industrial materials such as metal sheets. Goeritz began the decade of the sixties designing lighting for venues with stained glass windows and reflecting surfaces (gold leaf and metal sheet); he collaborated with architects[13] producing atmospheres that would help kindle emotions of spirituality and defended the idea of doing art as a service, using light as a plastic material. In the editorial (1971) he dedicated to Kepes, he describes him thus:

> a painter, photographer, industrial designer, teacher, editor, and organizer of graduate seminars that have contributed to clarifying much—especially in the fields of light and movement—about the environment that surrounds us (Goeritz, 1971, p. 71).

In 1964, the year in which he wrote *El arte es un servicio* (Art is a service), Goeritz granted an interview to Marian L. Gore for the "Art Scene" radio series produced by the Ciudad Universitaria radio station (Interview with Mathias Goeritz for the "Art Scene" radio series, September 1, 1964, AAA, 12289). He spoke of the relationship between art and society, and his opinion was that art was changing direction—without much fuss or manifestos—and would reach the people instead

13 From 1958, he worked with Ricardo de Robina and Jaime Ortiz Monasterio on the Cathedral of San Lorenzo, and later created stained-glass windows and altars at Barragan's Chapel of the Capuchinas (1960-1965) and stained-glass windows at the Metropolitan Cathedral and the synagogue in Polanco built with Serur, among others.

of being isolated in galleries; and he described his Visual Education class (which would be called "Design" in English) as having "artistic features," although its aim wasn't to train artists (Interview with Mathias Goeritz for the "Art Scene" radio series, September 1, 1964, AAA, 12289). In his view, architects were "on the safe side," for their art incorporates itself to life, and he quoted Moholy-Nagy as part of the new vision begun by De Stijl,[14] Mondrian and the Bauhaus. This new vision consisted of living with art as it was experienced in gothic cathedrals: "Now our art is either condemned to being in galleries or museums or to [being] alive in a way that people live with it." According to Goeritz, "perhaps today, when less is talked about the art world, will be a sign in the future, where they will see this was the age when it was most expressed," and he condemned artists, saying that "the artist is still in his ivory tower painting, though in reality I think it's over" (Interview with Mathias Goeritz for the "Art Scene" radio series, September 1, 1964, min. 22:00"-24:00", AAA, 12289). The core idea of Goeritz's affinity with Moholy-Nagy's *New Vision* is summarized in his 1964 text *Art is a Service* (Cuahonte, 2015, p. 73). Art with a social function was the central notion linking his artistic work with collaborations with architects, with his teaching, and with writing manifestos as an artist and texts as a critic (Rodríguez Prampolini, 2016; Cuahonte, 2015).

According to Josten (2018), Ida Rodríguez Prampolini[15] and Goeritz were the first in Mexico to enunciate the importance of the ethical content of artistic practices as social practices; in other words, fostering "art as service," in contrast to "art for art's sake" (Rodríguez

14 *De Stijl* ("style" in Dutch) is the name of the magazine devoted to plastic arts founded by Piet Mondrian and Theo van Doesburg, and it is also the name of the artistic movement whose objective was total art.

15 A friend of Goeritz's since they met in the Cave of Altamira, in Santander, Spain. Besides being an important academic in the Institute of Aesthetic Research at the UNAM, Rodríguez Prampolini was Goeritz's second wife, and they had a son together.

Prampolini, 2016, p. 29). In the press and in his foreword to the "Art" section of *Arquitectura México* magazine, Goeritz's position was clearly against the formal and speculative efforts of art that promoted the artist-genius as a producer of valuable objects disconnected from his or her society. Rodríguez Prampolini claims that Goeritz and Moholy-Nagy realized that "the traditional concept of the artist wasn't valid in an era of nuclear fission. The future scale of the artist is not domestic or even monumental, but environmental" (Cuahonte, 2015, p. 16). That is, "for Goeritz, László Moholy-Nagy was the great example to follow" (Cuahonte, 2015, p. 15). From the sixties onwards, Goeritz leaned more towards defending art's capacity for fostering values such as spirituality and less towards beauty in plastic integration. Goeritz attacked the culture of individualism and narcissism in artistic production: namely, the artist-genius as an emblem. These critiques were articulated in *Arquitectura México* and in several manifestos.

> Although [Goeritz] was an unstoppable plastic artist, around the sixties he began to have serious doubts about the action of aesthetic forms as a factor for social improvement. In his last fifteen years of life, he was convinced that the central problem for human beings isn't aesthetic but moral. It is not a matter of educating aesthetic sensibility but moral sensibility. This new path he took is a return to the guru of his youth: the founder of Dadaism, Hugo Ball [...]. In his final years, Mathias was convinced that the lack of morality in today's society was due to the loss of the religious sense of life. The [...] absence of faith in God leads to the absence of transcendent values (Rodríguez Prampolini, in Cuahonte, 2015, pp. 15-17).

Art as a service posits art with a function, useful art that reflects and solves the typical needs of its time. In 1963, in his text *Advertencia* [Foreword] he writes:

Mathias Goeritz with the Albers, February 1967, The Josef and Anni Albers Foundation. ©Jon Naar.

> Artists that devote themselves to "art for art's sake" exist and will surely always exist. They cannot be considered representatives of today's universal and European currents, however. These consist of artists who, without doing art for art's sake, don't fall into a realist message either, but rather employ a language that is just as direct but very different. (Goeritz, 1963, in Cuahonte, 2015, p. 243)

He presents Moholy-Nagy as an example of the creator he is trying to promote: "László Moholy-Nagy—the Bauhaus master that established a design institute whose fruits we appreciate alongside others in many parts of our lives—expresses, perhaps better and more clearly, the type of modern creator I am referring to" (Goeritz, 1963, in Cuahonte, 2015, p. 243-244).

Color

Like the Bauhaus teachers before him, Goeritz linked colors with emotions and sensations or as a concept in themselves. For example, if the entire class was about the color blue or gold, he'd speak of all things blue or gold and how the color was associated to specific contexts and concrete emotions. That way students could feel and understand better, as he focused on everything around them and their specific contexts. He would speak of one color, its everyday uses and the functional relationship between them: brighter colors that could be seen better, or lighter ones for clothes, or whether a color sparked particular sensations in everyday life.

Álvaro Chávez Landa describes Goeritz devoting an entire class to speaking of a single color in a free prose of sorts, speaking of metaphorical concepts taken to architecture and relating them to everyday things specific to that color (Interview with Juan Álvaro Chávez Landa, March 8, 2018).

For example, Goeritz was fascinated by the colors of the bougainvillea, and he encouraged his students to exploit and use their chromatic qualities. Goeritz would say that if he could, he would paint Mexico City Mexican pink.[16] It is probable that from there he structured an exercise that greatly impressed Chávez Landa, where students had to close their eyes and Goeritz narrated their journey from Mexico City to Cuernavaca, where everything had been painted pink. He detailed how every single thing looked monochrome pink from the highway: Cuernavaca painted pink; people dressed in pink; the trees and grass, pink; billboards and stores everyone knew, pink; the classroom, pink. Goeritz "drilled the color pink right into their brains" (Interview with Juan Álvaro Chávez

16 There are anecdotes in the interviews with Senosiain and Solís Ávila where instead of Mexican pink he mentioned the color orange. It should be noted that the floor of the university stadium during the 1968 Olympics consisted of orange lines with magenta lines.

Landa, 8 de marzo 2018), and after imagining that monochrome narration, everyone would take ten minutes with their eyes closed to imagine the journey again and how everything looked in that color; they would mentally go over what they had imagined, and when Goeritz gave the signal, they would open their eyes and would have to write a three-page account of their experience imagining the journey described. This exercise left a clear imprint on Chávez Landa, for after imagining everything pink and opening his eyes in a multicolor world, he began to see flaws around him, becoming more aware of structures and their qualities, of the planes, curves, and defects of the school itself due to lack of maintenance.

According to Luis Solís Ávila, it was through color that students began to learn the importance of emotions in the Basic Design class (Solís, 2006, p. 5). Like Gertrud Grunow, Klee, and Kandinsky[17] in their classes, Goeritz suggested that architecture shared several attributes with music, such as rhythm, sequence and harmony. He used the feelings produced by music as catalysts for universal concepts, and he fostered the subjective understanding of color among his students through tables in which he related each color with an emotion (Interview with Luis Solís Ávila, July 13, 2017).

In *Visual Education* (1961), Goeritz writes that after developing the student's confidence they would do exercises with specific subjects and materials—in other words, with more defined guidelines and a time limit:

> The discipline demands that creation be subject to conventions. It's a matter of seeking possibilities in the topic and the material. Conditions are set for a topic's interpretation with clearly-defined materials. The exercises with this aim are generally subjected

17 Klee was a good violinist trained in a family of musicians and Kandinsky had synesthetic perception. Grunow was a pioneering educator in relating colors to sounds, emotions and movements through her "Theory of Harmony" class at the Bauhaus in Weimar.

> to time limits for their completion (Cuahonte, 2015, p. 71).

Some exercises for getting to know the materials—those mentioned by Luis Solís Ávila—were very simple: twenty-minute exercises that Goeritz called "exercises without mistakes, since instructions were followed on a specific material such as paper, and textures with very aesthetic qualities were produced." (Interview with Luis Solís Ávila, July 13, 2017).

Class Structure

According to Javier Senosiain (Interview with Javier Senosiain, June 23, 2017), the Design I class was structured through exercises related to the plane, and in the second semester, during Design II, they saw topics related to volume. The objective of the class was first the question of graphic and industrial design and then sculpture and volume. During the first semester, exercises were on proportion, harmony and rhythm—topics related to Kepes's anthologies. In Javier Senosiain's opinion, material function is important in architecture but so is psychological function; thus the importance of emotion, and hence Goeritz's emotional architecture (Interview with Javier Senosiain, June 23, 2017).

Goeritz describes in *Visual Education* (1961) how he implemented Moholy-Nagy's method so that the students could approach design problems from different perspectives:

> The application of subjects of architectural composition takes place after an ample discussion on the topic among students, teachers, architects, and contributors from different disciplines (physicians, psychiatrists, painters, etc.), in order to visualize the problem from different points of view: the whole, unit, structure, composition (Cuahonte, 2015, p. 71).

In the words of Goeritz, visual education "covers all branches, from theoretical ones based on

the philosophy and history of aesthetics to the practice of using the most diverse materials and their technical application" (Goeritz in Cuahonte, 2015, p. 70). The aim of this class was to broaden and shape the student's gaze in order to foster their "creative power" and capacity of observation. According to Friar Gabriel Chávez de la Mora, with Goeritz he learned "freedom of expression and creativity," and he inspired them to understand that "everything is designable" (Méndez-Gallardo, 2014, p. 42), in such a way that he encouraged creativity related to everything.

Goeritz resumed the method of teaching "from the inside out,"[18] in the sense that students should "find themselves compelled to imagining without the help of experiences foreign to them, without texts or magazines, etc." (Goeritz in Cuahonte, 2015, p. 71). He also applied these general concepts to concrete, everyday things. For example, he would ask: "What is balance?", and from this kind of question he would articulate the instructions for the exercises. Nieto Belmont says that Goeritz avoided predetermining the qualities of the students' exercises and therefore did not show them previous references of authors, instead presenting them as other solutions after they had solved the exercise (Interview with Juan Álvaro Chávez Landa, March 8, 2018; Interview with Lilly Nieto Belmont, January 27, 2017).

In Goeritz's words (1961), the objective of the class was the following:

> The training and broadening of a student's vision based on experiences that developed their spontaneous inventiveness in order to transform them into observers or make them imaginative was a matter of discovering the means of expression appropriate to their intellectual and emotional possibilities, which—once set in action—would provide them with a frank assessment of their creative power. (Goeritz in Cuahonte, 2015, p. 71).

18 According to Clemens (1975), the origin of this is Froebel.

Antonio Gallardo[19] (December 2, 2016) said that Goeritz used music as a tool: for example, he once had them listen to Bach's *Brandenburg Concertos* throughout the entire class. Nobody could do anything but listen, and after they finished he instructed the students to draw several sketches at home with India ink or felt-tip pens starting from the feelings inspired by the concerts, in order to synthesize what they had heard.

To the philosophy related to Moholy-Nagy, Goeritz brought a "spiritual dimension that emanated more from his personality, comments and attitudes than from theoretical indoctrination" (Galetar, 1997, p. 76). The exercises helped students develop a greater understanding for solving problems in three successive steps: 1) observation, perception and description; 2) systematic exploration and analysys; 3) conscious manipulation and action.

With the aim of producing more emotional openness and commitment to the class, Goeritz fostered the students' confidence in themselves by praising their exercises. He implemented the construction of the individual in their creative capacity through motivation. The exercises were organized with specific subjects or problems as a point of departure in order to build confidence in the students, and so that they could use their own experiences. In his own words:

> Besides theoretical introductions, the first series of practical exercises attempts to provide ample knowledge and handling of tools and materials (graphos, draftsman squares, paper, ink, wood, wire, plastic, glass, sand, fibers, colors, etcetera). The first incursions in the field of creation were realized with simple, elemental subjects. The second step is developing students' confidence in their creative possibility. Generally speaking, this is obtained by proposing a subject in such a way that students find themselves compelled to imagining without the help of experiences

19 A student of Goeritz's in 1974.

> foreign to them, without texts or magazines, etc. In these exercises, students have a great freedom of choice of materials to express themselves; a series of instructions on color, texture, space, light, shadow, sound, movement, etcetera. (Goeritz in Cuahonte, 2015, p. 71).

According to the interview with Nieto Belmont (January 27, 2017) and Luis Porter Galetar (1997, p. 77) Goeritz avoided the word "art" in class in order for students to understand that the exercises were processes and not finished works. This idea draws a relationship between Moholy-Nagy at the School of Design (Allen, 2002) and what Goeritz wrote in *Visual Education* (1961): "The word art [was] excluded and even forbidden in class" (Cuahonte, 2015, p. 71; Allen, 2002, p. 68).

Lilly Nieto Belmont and several of Goeritz's students mention that the core notions of his class were freedom, discipline, experimentation and enthusiasm. Antonio Gallardo says that "Lilly [Nieto Belmont] was serious; everyone was a bit frightened of her, and if you didn't have your homework and material, she wouldn't let you into class" (Interview with Antonio Gallardo, December 2, 2016); in other words, thanks to the efforts of Architect Nieto and the other teaching assistants, Goeritz did not to have to worry about calling the roll, grading, or making sure that students had their homework and material.

Goeritz's class in 1958-1959 had around thirty students (Galetar, 1997, p. 72), but by 1967 there were 110 students in the Design I workshop[20] and by 1968 there were as many as 150 students (Interview with Lilly Nieto Belmont, May 4, 2017). The teaching assistants helped him provide a structure of seriousness and discipline within the UNAM's experimentation at a mass scale.

20 This is established by the certificate for the ordinary examination for "Design IC" at the UNAM's National School of Architecture, folio no. 00561, group A1, code 106.

In an interview, Lourdes García said that during the first year (when they studied basic design) "it was like a reproduction of the Bauhaus" (Interview with Lourdes García, June 6, 2018). Goeritz was the teacher in charge, but the coordinators were Nieto Belmont and Arturo Chávez Paz. It was usual for famous teachers—such as Goeritz—to miss classes because of projects and commitments, and in reality the coordinators (such as Chávez Paz) were in charge of leading the class.

The objective of the Design I and II classes was to release the students from their fears and insecurities so they could develop their spontaneity and creativity. Goeritz sought to reach each person's core in order for each student to find their mode of expression, for the student's development was primordial, and thus the object [the exercise] came second to the process (Galetar, 1997, p. 76). For Goeritz, the key lay in "the capacity of seeing everything in terms of its relationships" (Galetar, 1997, p. 77). According to testimonies from Goeritz's students between 1958 and 1959 (Galetar, 1997), the class exercises helped develop greater understanding of the solution to apparently abstract problems.

Galetar (1997) recounts that Goeritz's class wasn't set up as a lecture hall, nor was it developed as a theoretical class. There was no predominant discourse—it was based on programmed exercises, and theoretical concepts appeared when analyzing the work they had done. Architecture students perceived Goeritz as an artist and sculptor, and they understood that the general objective of the class was to generate confidence in order to confront problems of form by developing their sensibility towards the subject. To the learning of form, Goeritz associated problems of qualities—in other words, "contrast, rhythm, color, sizes and textures" (Galetar, 1997, p. 74).

Luis Solís Ávila emphasized the importance of ethics for Goeritz, for as doctor in art history everything he did was accompanied by a vision:

"If there is anything that Mathias taught us it's that he was a person with great ethics as well as a sense of rigor, order, and discipline, but in an atmosphere of cheer and motivation" (Interview with Luis Solís Ávila, July 13, 2017).

Teaching with Emotion

According to his students and assistants Guillermo Díaz Arellano, Antonio Gallardo, Lilly Nieto Belmont, Diego Matthai, and Pedro Friedeberg[21], Goeritz's teaching was emotional and exciting: through simple exercises starting from a subject and material, students completed different solutions and thus exercised their "own creative world through the solution of problems that reflect the spirit of their time" (Goeritz, 1961 in Cuahonte, 2015, p. 71). Javier Senosiain (Interview with Javier Senosiain, June 23, 2017) remembers that the class results were the consequence of the motivation transmitted by Goeritz. His students remember him as a teacher that elicited enthusiasm and incited students to creative action. According to Chávez Landa, Goeritz would speak to them from emotion and motivated everything they did in class: "As he spoke he felt things, he'd say them with his heart" (Interview with Juan Álvaro Chávez Landa, March 8, 2018); and he adds that since Goeritz was very emotional and felt the things he said, Chávez Landa was able to take a piece of his teacher's heart with him. His generation refers to itself as "the Mathias Goeritz generation (1967-1972)" and they've had commemorative medals made with his portrait and typography designed by Gabriel Chávez de la Mora, who was also his student at the Universidad de Guadalajara.

21 (Interview with Guillermo Díaz Arellano, November 14, 2018; Interview with Antonio Gallardo, December 2, 2016; Interview with Lilly Nieto Belmont, January 27, 2017, May 4, 2017; Interview with Diego Matthai, January 12, 2017; Interview with Pedro Friedeberg, February 21, 2017, July 3, 2019)

Mexico, Albers and Klee's Dream

The study plan for the Visual Education workshop class in 1956, written by Goeritz and reproduced in this manual, has several links to the pedagogy of Josef Albers, for example in the emphasis on learning through the handling and properties of each material (Horowitz and Danilowitz, 2006). But Goeritz did not leave written testimony that Josef Albers had an influence on his class beyond his visit to the Albers home in February 1967 and a note from Anni Albers to Goeritz (Albers, 1967, ICC, A4). Another direct link between both pedagogies was artist Sheila Hicks, a student of Albers's, invited by Goeritz in 1960 to teach design and color at the ENA. She taught two sessions per month, on Thursdays, and said that at the UNAM she transmitted what she learned with Albers at Yale (Hicks, 2004).

Just as the Bauhaus had an influence on education, architecture, and art in Mexico, Mexico also had an influence on teachers and students of the Bauhaus: the Alberses loved the pyramids and visited the country fourteen times after moving to North Carolina. Josef Albers's first exhibition in Mexico, "Abstract Compositions," was presented in 1936 in the lobby of *El Nacional* newspaper (Museo Nacional de Arte Reina Sofía and Antiguo Colegio de San Ildefonso, 2006) and in 1949, before Goeritz arrived to Mexico, they taught a seminar at the UNAM (Horowitz, 2006). Mexico's influence on *Homage to the Square* is documented in Horowitz (2006), Hinkson (2006), Museo Nacional de Arte Reina Sofía, and Antiguo Colegio de San Ildefonso (2006). Partly on Goeritz's recommendation, Anni Albers collaborated in 1968 with members of the Olympic Cultural Commitee and designed the *Camino Real* textile. Photographs by Jon Naar found in the Josef and Anni Albers Foundation are a testimony of a visit by Goeritz to the Alberses' home in February 1967.

Like Josef and Anni Albers, Goeritz was a great admirer of the pyramids and used to say that people gave him "credit for something that deep

down the country deserved," because if he hadn't lived in Mexico, he "wouldn't have projected all these kinds of gigantic things, for it's a country that, thanks to the pyramids, is open to tradition, to a type of art" (Goeritz, 1974). Mexico was the environment that transformed Goeritz into the individual he was. In "La integración plástica en El Centro Urbano Presidente Juárez" [Plastic Integration in the President Juárez Urban Center], published in *Arquitectura México* magazine in 1952, Goeritz broaches the concept of the total work of art, a pillar of the Bauhaus. There, he references the common service that needs all parties in order to achieve a total work that contributes to society. He concludes his text citing a speech by Paul Klee (1924) in which he lamented that the Bauhaus's efforts did not succeed in becoming universal and remained unadopted, since "people didn't hear them." Goeritz writes that in Mexico, Klee's dream was being brought to fruition: the architects, sculptors and painters that worked on the Centro Urbano Presidente Juárez apartment complex had the support of the Mexican people. But according to Garza Usabiaga, since 1952 Goeritz had become critical of architecture for privileging function above any other consideration. In the face of this, he was asking for a new form of plastic integration that would rescue the experience of emotion in architecture (Garza Usabiaga, 2011, p. 199, 201). Moreover, Goeritz would shift his position with regards to the total work in communion with functionalism: in 1961 he wrote in *Arquitectura México* on the influence of the Bauhaus and Le Corbusier on Mexican functionalism, suggesting that:

> [...] its moralizing attitude [the path taken by functionalism under the interpretation of the Bauhaus's and Le Corbusier's teachings] has cheapened itself along the way, until nothing remains of it except for its most vulgar side, be it physical or material. The spiritual function that was essential in other eras for a construction to deserve the lofty name of "architecture," and which corresponded to an interior dimension of man, hasn't yet

> found the environment that justifies it (Cuahonte, 2015, p. 219).

In an interview with Humberto Ricalde (1984), Goeritz explained that teaching had been of great help to him, for he "cleared up his ideas by speaking and learned more than the poor students did, having been able to listen to so many opinions, so different, fresh, and very alive" (Goeritz in Cuahonte, 2015, p. 411). He thought that by means of his teaching practice he was the one who had learned the most, for he benefitted from discussions with the students that were useful for developing his ideas. In this interview with Humberto Ricalde (1984) he also opens up when he says:

> Basic design classes must be very bad in several workshops at the Faculty of Architecture, for there is too much coldness, too much schematism in the new designs of our cities. Where is the result of sensitizing students to spatial and artistic problems? The results are horrible... That's why I say I am under the impression that my labor is useless and even counterproductive (Goeritz in Cuahonte, 2015, p. 414).

In between tributes, illness, and depression, in his last year of life Goeritz declared to the *Excélsior* newspaper: "I had many students and I was wrong, because I told them that the work they did would result in making the world more beautiful" (Rosales y Zamora, 1990, CENIDIAP, Folder Educación Visual).

Pedro Friedeberg, a student and friend of Goeritz's, wrote in a postcard addressed to him that:

> Your marvelous, pernicious influence has made it all the way here! [Reverse: image of the monumental geometrical sculpture *Triangle of the Sun*, Zihuatanejo, Guerrero.] I think I read once that you have had 40,000 plastic arts students. And here is the result. *Voilá*! I congratulate you. Although I must confess

> that it's better than the monument to Zapata as you enter Cuernavaca or the little head of A.L.M [Adolfo López Mateos] in Toluca (Friedeberg, correspondence, 1987, ICC).

Even if it became a commonplace because of its popularity, Goeritz's class was based on the pedagogy developed by Moholy-Nagy, Josef Albers, and before that by Itten—an education that sought for students to exercise their creative capacities by means of clear instructions. The influence of abstract monumental sculpture in Mexico was partly promoted by Goeritz through the *Route of Friendship*. Friedeberg jokes about this "legacy" (1987), and it's worth mentioning here that there is an interpretation by Amador Tello (2015) regarding that legacy of abstract monumental sculpture degenerating into opaque alliances between artists and politicians or public servants. For example, Amador Tello (2015) mentions the ethical controversies of Sebastian's work, who was Goeritz's assistant and protégé and who in his own words became famous because Goeritz:

> ...gave me "the keys to México," opened me up to the world abroad, to the international panorama of sculpture. He was an artistic father of sorts; there are no offspring without parents. [...] Goeritz brought me closer to the multiple possibilities of geometry. (Sebastián in Schwartz, 1990, pp. 20-21, CENIDIAP, Folder Educación Visual).

Goeritz facilitated several exchanges between international artists and Mexican artists and architects. In *The Route of Friendship* he included artists such as Ángela Gurría and Helen Escobedo, who shared a platform with Alexander Calder and Herbert Bayer. The latter represented the United States and Austria with the piece *Articulated Wall* (1968). In the article *La ruta de la amistad: escultura* (The Route of Friendship: Sculpture) (1970) published in the magazine *Leonardo*, Goeritz described his close relationship to Bayer, and Bayer's capacity for incorporating in his design the process of realizing a work.

Articulated Wall was the result of an investigation into the characteristics of reinforced concrete as part of the piece's conceptualization and realization. The Bauhaus was an important precedent for Goertiz's concept of art as service. Bayer, Moholy-Nagy, Albers, Kepes and Goeritz shared the notion that art should have an objective in our lives and appear in the cities and their streets; for Goeritz, the function of art was emotion; and, for Bayer, it was that art be valid and pertinent to its times.

In a conversation between Jürgen Claus, Bayer and Goeritz, the latter mentioned that perhaps "what the Bauhaus proposed at its time will emerge now [in 1982]: a socialization of art" (Cuahonte, 2015, p. 401). Here, Bayer explains that initially the artist was an artisan—the notion of a genius came later—and proposes that "currently [1982] he or she is the result of the influence of galleries and museums," explaining that he didn't agree with this vision of art. Bayer thought that in the near future, artists would work with their era and society (Cuahonte, 2015, p. 399); in other words, art would be incorporated to all branches and wouldn't be just a product of geniuses.

The notion that each human being has a creative faculty, a social responsibility, and that the whole world is talented if they develop their senses, emotions, and reason was formulated in artistic and teaching proposals during the twentieth century. In Mexico, this teaching was promoted by Goeritz, who inaugurated different schools of art and architecture, therefore influencing the contents of first-year courses in different universities that were then emulated by other institutions. His subject was part of architecture study plans, along with other subjects related to engineering, such as mathematics, mechanics, and descriptive geometry.

Goeritz promoted art as a service. He sought for students to start from an awareness of visual language in order to create architecture that was capable of moving the user in the emotional

and spiritual plane. The class was driven by the motivation of students as a result of the teacher's enthusiasm. It consisted of exercises with defined instructions that would slowly increase in complexity. The objective of his class was to broaden students' vision and develop their inventiveness in order to make them observant and imaginative. By activating students' intellectual and emotional possibilities—through materials, instructions and topics—the intention was for students to acquire awareness and security by harnessing their creative power better.

Maestros de Diseño en la ENA. De izquierda a derecha: Luis Enrique Ocampo, Gulia Cardinalli, Mathias Goeritz, Jorge Segura, Lilly Nieto Belmont, Carlos Menvielle. Autor desconocido, *ca*. 1967-1968. Archivo personal Luis Solís Ávila. Imagen tomada de Mathias Goeritz, (1961), "La educación visual", *Gaceta del Fondo de Cultura Económica*, núm. 86. CENIDIAP, Fólder Educación visual.

Design teachers at the ENA. From left to right: Luis Enrique Ocampo, Gulia Cardinalli, Mathias Goeritz, Jorge Segura, Lilly Nieto Belmont, Carlos Menvielle. Unknown author, *ca*. 1967-1968. Personal archive of Luis Solís Ávila. Image taken from Mathias Goeritz, (1961), "La educación visual", *Gaceta del Fondo de Cultura Económica*, No. 86. CENIDIAP, Visual Education Folder.

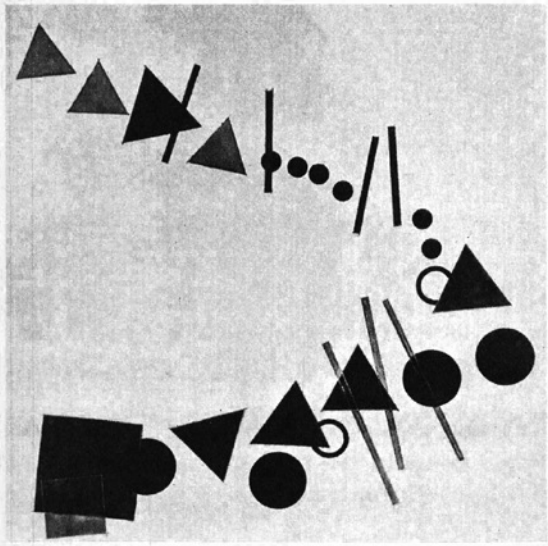
Mathias Goeritz: La educación visual

En la época actual en la cual el arte de la pintura y de la escultura se reduce a expresiones individualistas aisladas del ritmo esencial de la vida en general, existen algunos fenómenos que indican un cambio radical de la valorización artística.

Mientras el *artista* sigue basándose en el concepto del Renacimiento que destaca el valor del genio independiente, sintiéndose apartado y, muchas veces, subestimado por la sociedad, las exigencias del hombre moderno se dirigen a la aplicación de los encuentros formales a la vida diaria.

estética y espiritualmente más elevado en sus construcciones. Aunque los trabajos que salen de estos cursos pueden llegar a alcanzar el nivel de aquellas obras presentadas en las galerías artísticas, no han sido elaborados con el fin de ser expuestos ni llevan ninguna intención de ser *arte*. Se trata simplemente de una búsqueda de valores visuales o táctiles para enriquecer el mundo formal del estudiante.

Sin embargo, la educación elemental se ha inspirado y sigue inspirándose en los encuentros formales y coloríst-



Clase de Educación Visual, segundo curso, Escuela de Arquitectura de Guadalajara (1951)

El tipo de trabajo escolar que muestran las fotos se ha elegido por prestarse más a la ilustración del artículo, aunque ya no corresponda al tipo de trabajos actuales que se hacen en los cursos de Educación Visual. El nuevo tipo de trabajos se subordina en mayor escala a las necesidades de la arquitectura y el diseño. Como toda enseñanza, la Educación Visual ha evolucionado. En la actualidad se liga mucho más que antes con la estructura y las demandas de la arquitectura. Las fotos que ilustran el artículo corresponden a los cursos que, sobre esta materia, impartía el doctor Mathias Goeritz en la Escuela de Arquitectura de la Universidad de Guadalajara.

de las justificaciones más válidas del "arte abstracto" contemporáneo aunque raras veces ha sido aceptada como tal por parte de sus representantes que insisten, generalmente, en un significado más profundo de sus obras.

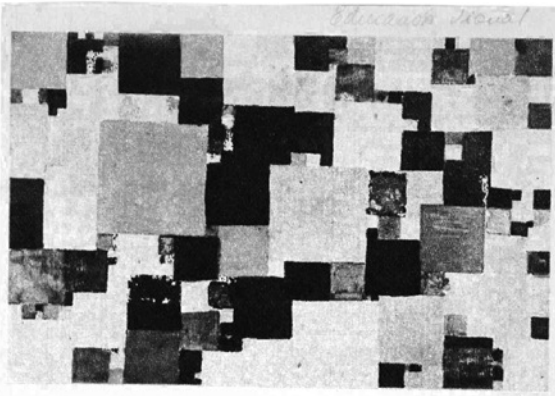
Un ejemplo sobresaliente, el caso de Piet Mondrian, puede servir de prueba de la trascendencia de esta clase de influjo. Es ampliamente sabido que la arquitectura actual tiene ligas estrechas con su obra pictórica, la que, hace más o menos 45 años, se sublimó en un lenguaje de composiciones de líneas verticales y horizontales entre las cuales el artista colocó —generalmente con gran sentido de economía— campos planos de color. A pesar de, o quizá, precisamente, gracias a lo limitado de la obra de Mondrian, su influencia fue decisiva para la enseñanza de la arquitectura moderna.

El campo del juego estético de sus composiciones fue ampliado considerablemente por Kandinsky y —más tarde— por Moholy-Nagy, en las enseñanzas del "Bauhaus" alemán. Primero ahí, y al acabarse el "Bauhaus" en el Instituto de Diseño de Chicago, fundado por el propio Moholy-Nagy, evolucionó la idea de una educación de la sensibilidad, en un sentido como hoy en día domina en la mayoría de las escuelas de diseño y de arquitectura del mundo occidental.

Siendo el diseño urbanístico arquitectónico el que forma el marco en el cual entran, prácticamente, todas las otras secciones del diseño moderno, se entienden las ligas de los diferentes campos de acción. Aunque en muchas partes del mundo todavía no se ha reconocido la importancia primordial del diseño moderno, la evolución inevitable indica que las "Escuelas de Bellas Artes" o de las "Artes Plásticas" tienden a desaparecer, o se convertirán en "Escuelas de Diseño" que serán una, cada vez mayor, necesidad en un futuro próximo.

La base de cualquier educación del diseño es precisamente, y sin lugar a dudas, aquella formación a la cual en México se ha dado el nombre de "Educación Visual", "Educación Plástica" o —a veces— simplemente "Diseño". Abarca esta educación, en el fondo, a todas las ramas, desde las teóricas basadas en la filosofía y la historia de la estética, hasta la práctica del uso de los materiales más diversos y su aplicación técnica.

No existe todavía en México ningún libro que sirva de guía, tanto para los maestros como para el alumnado, en esta materia, a pesar de los esfuerzos que en esta dirección se hicieron en un Seminario de la Escuela Nacional de Arquitectura (U.N.A.M.) convocado para este fin. Los únicos libros que

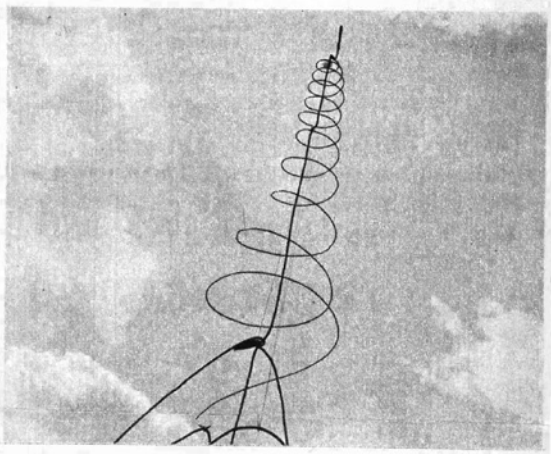


Clase de Educación Visual, segundo curso, Escuela de Arquitectura de Guadalajara (1951)

hasta ahora se han usado son los de Moholy-Nagy y Kepes, editados en inglés.

Siendo el objetivo de la clase de "Educación Visual" la formación y ampliación de la visión del estudiante a base de experiencias que desarrollan su inventiva espontánea para volverlo observador e imaginativo, se trata de una sincera valoración de su poder creativo.

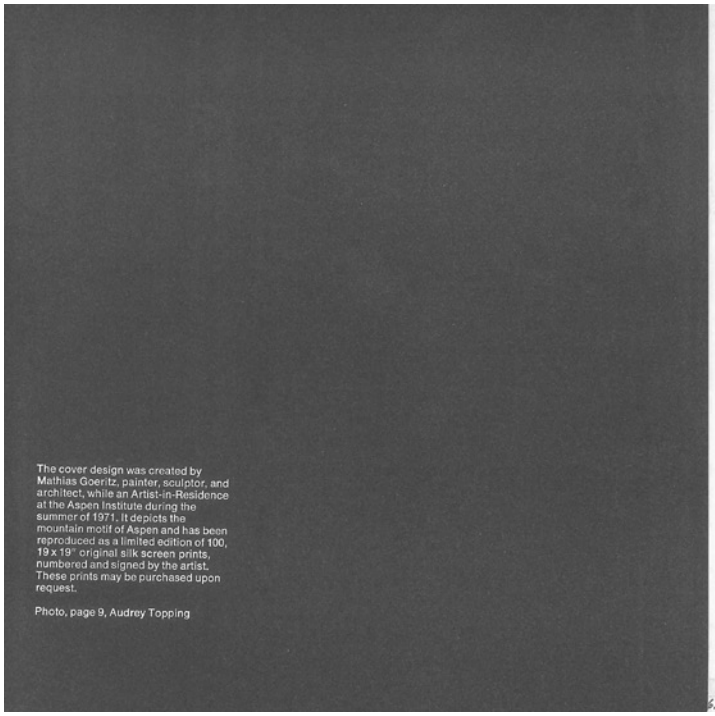
A parte de las introducciones teóricas, la primera serie de ejercicios prácticos intenta dar un amplio conocimiento y manejo de útiles y materiales. (Grafos, escuadras, papel, tinta, madera, alambre, plástico, vidrio, arena, fibras, colores, etc...) Las prime-



Clase de Educación Visual, segundo curso, Escuela de Arquitectura de Guadalajara (1951)

Imagen tomada de Mathias Goeritz, (1961), "La educación visual", *Gaceta del Fondo de Cultura Económica*, núm. 86. CENIDIAP, Fólder Educación visual.

Image taken from Mathias Goeritz, (1961), "La educación visual", *Gaceta del Fondo de Cultura Económica*, No. 86. CENIDIAP, Visual Education Folder.



Folleto del programa AIHS 1972-1974. Diseño de portada: Mathias Goeritz. Archivo CENIDIAP, fólder AIHS, © Daniel Goeritz Rodríguez.

Brochure for the 1972-1974 AIHS program. Cover design: Mathias Goeritz. Source: CENIDIAP Archive, AIHS Folder, © Daniel Goeritz Rodríguez.

ESCUELA NACIONAL DE ARQUITECTURA.
PROGRAMA DE LA CLASE DE TALLER
DE EDUCACION VISUAL. 1956.

EL OBJETO DE LA CLASE DE EDUCACION VISUAL ES AMILIAR LA VISION DEL ESTUDIANTE A BASE DE EXPERIENCIAS QUE DESARROLLAN SU INVENTIVA ESPONTANEA- PARA VOLVERLO OBSERVADOR E IMAGINATIVO.

DESCUBRIR LOS MEDIOS DE EXPRESION QUE LE SEAN PROPIOS A SUS POSIBILIDADES INTELECTUALES Y EMOTIVAS LAS CUALES UNA VEZ PUESTAS EN ACTIVIDAD - LE DEBEN DAR UNA SINCERA COMPRENSION DE SU PODER CREATIVO.

PRIMERA SERIE DE EJERCICIOS:

Conocimiento y manejo de útiles y materiales, Grafos, escuadras, papel, tinta, madera, alambre, plástico, vidrio, fibras, colores, etc.
Iniciación en el campo de la creación con temas simples y elementales.

SEGUNDA SERIE DE EJERCICIOS.

Crear confianza en el alumno de su posibilidad creadora. El tema es propuesto por los maestros en tal forma que el alumno se vea obligado a imaginar sin el auxilio de experiencias ajenas a él, ni textos o revistas - etc.

Estos ejercicios tienen libertad tanto en la interpretación del tema como en la elección de materiales para expresarse.

Estudio de texturas, espacio, luz, color, sonido, movimiento.

TERCERA SERIE DE EJERCICIOS:

Creación sujeta a convenciones.
Buscar la posibilidad en el tema y material.
Al tema se le ponen convenciones en la interpretación.
Los materiales son definidos.
Las convenciones son discutidas por el alumno y el maestro.
Los ejercicios están sujetos a límites de tiempo para su realización.

CUARTA SERIE DE EJERCICIOS.

Aplicación a temas de composición arquitectónica.

DISCUSION DEL TEMA.

Alumno, maestros y colaboradores de las distintas disciplinas, médicos, psiquiatra, pintor, etc.

Para visualizar el problemas de diferentes puntos: de conjunto, de- unidad estructura, de composición y solución final.

MAQUETAS:

Esta última serie de ejercicios son individuales y en grupo.

EL PROFESOR.

Dr. Matías Goeritz.

VIII/62

ihb

Programa de la clase de taller de Educación visual, Dr. Matías [*sic*] Goeritz, 1956. Fuente: Archivo ENA, cajas 1954-1956, programas. Facultad de Arquitectura, UNAM.

Program for the Visual Education Workshop, Dr. Matías [sic] Goeritz, 1956. Source: ENA Archives, Boxes 1954-1956, Programs. Faculty of Architecture, UNAM.

National School of Architecture, UNAM
Program for The Visual Education Workshop Class. 1956.

THE OBJECTIVE OF THE VISUAL EDUCATION CLASS IS TO BROADEN THE STUDENTS' VISION ON THE BASIS OF EXPERIENCES THAT DEVELOP THEIR SPONTANEOUS INVENTIVENESS IN ORDER TO MAKE THEM OBSERVANT AND IMAGINATIVE.

TO DISCOVER THE MEANS OF EXPRESSION SUITABLE TO THEIR INTELLECTUAL AND EMOTIONAL POSSIBILITIES, WHICH, ONCE SET IN ACTION, SHOULD PROVIDE THEM WITH A SINCERE UNDERSTANDING OF THEIR CREATIVE POWER.

FIRST SERIES OF EXERCISES:

Getting to know and use the tools and materials. Graphos, drafting square, paper, ink, wood, wire, plastic, glass, fibers, colors, etc.

Initiation into the field of creation with simple, elementary subjects.

SECOND SERIES OF EXERCISES:

Build confidence in students regarding their creative possibility. The topic is proposed by teachers in such a way that students find themselves compelled to imagining without the help of experiences foreign to them, without texts or magazines, etc.

These exercises have freedom both in the interpretation of the topic as well as in the selection of materials to express themselves.

Study of textures, space, light, color, sound, movement.

THIRD SERIES OF EXERCISES:

Creation subject to conventions.
Search for possibility in the subject and material.
Conventions are placed for the topic's interpretation.
Materials are defined.
Conventions are discussed by student and teacher.
The exercises are subject to time limits for their realization.

FOURTH SERIES OF EXERCISES:
Application of subjects of architectural composition.

DISCUSSION OF THE SUBJECT:

Student, teachers and collaborators from the different disciplines, physician, psychiatrist, painter, etc.

To visualize the problem from different points: as a whole, as a unit, as a structure, as composition, and final solution.

MODELS:

This last series of exercises is done individually and in group.

THE PROFESSOR
Dr. Matías Goeritz [sic]

(See image in the Spanish version)

Goeritz, program from the Visual Education Workshop class, 1956, AENA, Program Box.

Acknowledgments:

We wish to thank: The PADID team, the CENART and the Secretariat of Culture. The ENPEG "La Esmeralda", Karla Villegas and Beatriz Garduño. Paola Santoscoy and the Museo Experimental El Eco team. All the people interviewed: Lilly Nieto Belmont, Guillermo Díaz Arellano, Pedro Friedeberg, Lance Wyman, Diego Matthai, Juan Álvaro Chávez Landa, Rezo, Luis Solís Ávila, Javier Senosiain, Antonio Gallardo, Dr. Lilly Kassner (RIP), Martha Helión and Architect Rezo.

The universities and institutions: UNAM, Luis Eduardo de la Torre and Alejandra González; Universidad de Guadalajara, Everardo Camacho; CCAU, Gabriela Castañeda and Adolfo Peña; UAEM, Adolfo Cazales and Mariana Silveyra; and all the academic staff there that assisted us so that we could teach the workshops. Dr. Inés Dussel from CINVESTAV (Southern campus). All the personnel from Instituto Cultural Cabañas: Susana Brandon, Laura Bordes, Rubén Méndes, Eduardo Vargas, María del Rayo, Sonia Pérez and Liliana Ramírez. The CENIDIAP: Rodrigo Bazaldúa and Patricia Brambila. The staff from the Archives of American Art at the Smithsonian; Juliet Kepes; the Faculty of Architecture and the Archive at the ENA; Fabiola Aguilar; Lynda Klich and Hunter College, City University of New York; the Art and Architecture Room at the New York Public Library; The Josef and Anni Albers Foundation; Brenda Danilowitz; Jon and Alex Naar; Issa Benítez; Galería La Caja Negra; Daniel Goeritz; Francisco Soní Solchaga; Diana Goldberg; Sonia Verjovsky; and Maru Calva.

A supplementary part of this research was supported through a grant from CONACyT and funding from CINVESTAV, both provided for writing a doctoral thesis related to the subject of the manual.

Research and Project Coordination:
David Miranda and Sandra Valenzuela
Design: **Ningúem - Maru Calva**
Formatting Assistant: **Sandra Martínez**
Copyediting: **Diana Goldberg**
English Translation: **Sonia Verjovsk**y

Photographs:
Josef and Anni with Mathias Goeritz, February 1967, photograph by Jon Naar

Taller Nómada:

CENIDIAP documents:

La Caja Negra Gallery
Visual Education photos:
Instituto Cultural Cabañas Archive

Design teachers at the ENA. Image taken from Mathias Goeritz, (1961), “La educación visual”, *Gaceta del Fondo de Cultura Económica*, No. 86. CENIDIAP, Visual Education Folder.

The Taller Nómada project was realized as part of the Mathias Goeritz Extraordinary Chair, coordinated by the Museo Experimental el Eco belonging to the UNAM’s General Direction of Visual Arts. The workshops were made possible by working in collaboration with the UNAM’s Faculty of Architecture, the UdG’s School of Architecture and the UAEM’s Faculty of Architecture.

This project was a beneficiary of PADID 2019.

CULTURA
SECRETARÍA DE CULTURA

EVART