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**It Takes a Village: Josef Albers and R. Buckminster Fuller at
Black Mountain College**

Jillian Lepek

Black Mountain College has been frequently described as formed in the intellectual tradition of intentional communities, one of the most well-known being Brook Farm in Massachusetts (1841-1847). A product of pre-Civil War America, these utopian communities sought a cooperative lifestyle based on the principles of manual labor and rigorous education. The twin forces of the farm and the school – a dynamic that similarly undergirded Black Mountain College for much of its twenty-four year run – was thus imagined as the basis for overall social harmony.

As an educative institution first and foremost, Black Mountain privileged pedagogy over an ideological commitment to specific community dynamics. Nonetheless, the College founders' enthusiasm for educational reformer John Dewey's "learning by doing" philosophy – coupled with a perpetual lack of funds and resources – naturally lent itself to the formation of a self-fashioned society. Learning-by-doing placed an emphasis on experiential and practical training in order to equip students with the agency to actively participate in a democratic civil society. At Black Mountain, this kind of learning took place both within the classroom and in their activities around campus more generally. David Silver has demonstrated that the history of Black Mountain College is inseparable from the farm and work programs that sustained the students, faculty, and staff.¹ A continuous, though at times uneven, investment in keeping the school afloat through the economy of its own merits and a pioneering commitment to progressive education led to the kind of community that could be most accurately described as a village. Indeed, the village formed at BMC practically manifested Dewey's pronouncement that "education is life itself."

This description of Black Mountain as a village was first pronounced in one of the most important papers to address the college – Louis Adamic's 1936 article "Education on a Mountain" for Harper's Magazine.² Adamic visited Black Mountain "to get away for

a while from the tempo and confusion of New York,” thinking he would stay an hour, but ultimately ended up a resident of the school for two and a half months.³ Through interviews with students and faculty, Adamic deduced that Black Mountain’s allure and success as an experimental institution was a result of their self-definition as a “village,” a type of community that they felt no longer truly existed in the rapidly modernizing world.⁴ The village affirmed the individual’s right to belong by bestowing them with a purpose; at BMC this was realized both by integrating classroom education with an investment in the surrounding environment and day-to-day operations of the school, ideally undertaken by students and faculty equally.

In her essay for the catalogue *Leap Before You Look: Black Mountain College, 1933-1957*, curator Helen Molesworth points out the “hegemonic bias” of the familiar story that critical art practice transitioned from European to American urban centers during the first half of the twentieth century. Molesworth’s contention is the fallacy that this narrative can be mapped onto Black Mountain in order to characterize the school’s overarching dynamic as simply the transition between “old-world European gentility and a brash, new, self-centered Americanism.”⁵ Her proposition to overcome this formulation is to view Black Mountain through the lens of cosmopolitanism. Cosmopolitanism as Molesworth sees it provides a way of seeing the BMC experiment as “neither idyllic nor failed” but rather as comprising a complex network of heterogeneous cultural exchange that was adaptable to the shifting and unstable landscape brought about globally by the world wars and locally within the school’s inner conflicts.⁶ In this way, the college can be reimagined as a place “whose energies were not rooted in a specific location but whose fertile seeds were carried by individuals to many places.”⁷

At the same time, however, the Black Mountain community did have physical roots that they worked very hard to maintain. Black Mountain historian Mary Emma Harris stresses that the school’s “isolation from any cultural centre only added to the intensity of college life.”⁸ For the many who came to North Carolina from distant places, such as Adamic, the school seemed to provide a new and exciting locale away from any familiarity. Cosmopolitanism provides an important lens for understanding how the people of Black Mountain came together but I am likewise interested in what made them

stay. As such, the model of the village can help us understand how both the long-term and short-term residents of Black Mountain College established a productive relationship with the intertwined social climate and physical setting of the school.



Figure 1. Work program team leaving Lee Hall for the Lake Eden campus, Black Mountain College, 1940-41. Courtesy of Western Regional Archives, North Carolina State Archives.

This can be elucidated through the works of two important, yet distinct, residents of Black Mountain College: Josef Albers and R. Buckminster Fuller. Albers came with his wife Anni from the recently closed Bauhaus to teach at Black Mountain in 1933 and stayed until 1949. Fuller attended the school's summer sessions as a faculty member in both 1948 and '49. Albers's lessons in color, form, and material, taken by practically

everyone at the college, are inseparable from Black Mountain's history. He opened students' eyes to what Eva Díaz has termed the "ethics of perception," causing them to pay more acute attention to how the world is constructed around them as well as, crucially, in their own minds.⁹ Although Fuller stayed for a much shorter length of time, his work with students on the first geodesic domes has similarly been enfolded into legend of the institution. His Black Mountain College collaborators were the first to be called "comprehensive designers," Fuller's term for a proposed class of non-specialized thinkers that could undertake the distribution of the world's resources in order to do "more and more from less and less."¹⁰

In her important book on the subject of experimentation at Black Mountain, Díaz pinpoints "community" as another sweeping term used to define the school.¹¹ Here, I am following her example by attempting to get at what this latter term may have meant for those who actually lived it. In this way, I am also aligned with Albers's assertion that schools are "meant to integrate the individual into the community, its economy and its values" rather than follow the "ancient standards" of a "teaching institution that revolves around a center, its dominant figure, the professor."¹²

However, the two men did not experience the highs and lows of community equally. Albers had a much more sustained position at Black Mountain than Fuller and was thus much more privy to its institutional challenges. The framework of the village is not by definition idyllic – Black Mountain is perhaps equally as famous for its inner squabbling and guard changes as it is for its artistic innovation. A village necessarily comes with the tensions of close quarters, and the friction between who is considered out or in at any given moment.

Nevertheless, Albers's more involved role at Black Mountain came with the advantage of a continuous observation of its community dynamic. His leaf studies, gleaned from the surrounding environment and first introduced as a part of his BMC courses on color, are some of the most playful exercises in his oeuvre and invite consideration on the nature of flexible relationships. Fuller's development of the geodesic dome, which took place over the course of two summers, was a crystallization of ideas developed outside of BMC that were given space to come to fruition in the

college's unique setting. Black Mountain gave both Albers and Fuller the impetus to further develop and harness their own theories of nature, design, and human perception. Putting it broadly, it can be posited that Black Mountain's cultivation of a village mentality allowed for a condition of artmaking that probed the ways people can both control and become implicated in their immediate surroundings.

Working Together

Since its inception, Black Mountain's students and faculty set out to define themselves against the norm. Founded by former Rollins College professor John Andrew Rice after he was ousted from the university for his outspoken views, it developed what Martin Duberman called "a disdain for life as usually lived" coupled with "some unsettled notions...as to how it might be made different and better."¹³ The new college based itself in the North Carolina mountains on the suggestion of Robert Wunsch, another former Rollins faculty member who had left Rollins with Rice and had previous experience living and teaching in the area. Though the setting was chosen largely by the fate of opportunity, the Rollins group appreciated the isolation provided by the surrounding mountains while also being close enough to the city of Asheville for the procurement of supplies or for recreational enjoyment.¹⁴

As a result of influential publications like Ralph Borsodi's memoir *Flight from the City: An Experiment in Creative Living on the Land*, students and faculty started looking into establishing a farm on the property when lease negotiations suddenly made it possible to take over adjacent land and farm buildings.¹⁵ Collaboration with nearby institutions like the Asheville Farm School and Swannanoa Test Farm, as well as the guidance of a father of a BMC student from the area, gave Black Mountain the opportunity to learn local farming techniques and at the same time gain a renewed faith in the school's long-term stability.¹⁶

The development of the farm was characteristic of the college's early pioneering spirit and its influence carried into later years. During the war, after the school moved to its more permanent location on Lake Eden, the farm was expanded and added dairy and beef herds.¹⁷ A new faculty member in chemistry, Fritz Hansgirk, discovered mica

deposits in old gold mines on the school's land, and the promise of a renewed income source kept the college open despite the loss of students to the war effort.¹⁸ Although the extraction process proved too difficult to fully realize, the mica anecdote reveals just how invested Black Mountain had become in its natural surroundings as a barometer for continued purpose. As David Silver has made clear, the good standing between members of the BMC community often hinged upon the work that was put into managing the land as a source of sustenance, shelter, and revenue.¹⁹ In this way, the state of the land often indicated the state of the college.²⁰

Beyond just the promise of straightforward resources, the college residents integrated themselves into their environment. Jon Horne Carter's chapter on BMC in his book *The Bohemian South: Creating Countercultures, from Poe to Punk* is a singular study of the college's assimilation into the natural landscape of Appalachia.²¹ Student memoirs describe hiking and camping trips, swimming excursions, forays into nearby Asheville, and the myriad species of plants and animals that they learned to tend, forage, manage, or simply appreciate.²² The afternoons at Black Mountain were set aside for time outdoors, giving everyone a chance to perform their work duties for the school or enjoy leisure and play.²³ Similarly, classes could be held outside in order to take advantage of the intricate natural environment.



Figure 2. Josef Albers with Charles Kessler during a Drawing Class held outside, ca. 1939-1940. Courtesy of Western Regional Archives, North Carolina State Archives.

Providing more than just sustenance, then, the cultivation of the village mentality led to a simultaneous connection with the college's surroundings that, in Carter's words, "transformed Rice and Dewey's work-study pedagogy into an inspired communion with the Appalachian material world."²⁴ In the ideal village, society and the environment mutually reinforce one another in a balanced relationship. From the point of view of many at the school, the true benefit of the work program, as well as pleasurable communion with nature, was that it could lead to a more inspired and aware self.²⁵ Students and faculty, as reflected in the teachings of Josef Albers in particular, could find themselves uniquely challenged and emboldened by the tangible relationship between their interior and exterior worlds.



Figure 3. "Hand and hand through the fields [Craggy Mtns., NC]." Publicity photo for Black Mountain College featuring two BMC college students. Left to right: Betty Kelley, Leonard Billing. Courtesy of Western Regional Archives, North Carolina State Archives.

“An American Discovery”

Josef and Anni Albers came to North Carolina from Dessau, Germany in 1933 after the Bauhaus closed due to Nazi pressure. Famously, Josef Albers did not speak any English before being offered the post at the suggestion of then-MoMA architecture director Philip Johnson. In fact, the Albers' had never even heard of North Carolina, but were advised by one of Josef's students to go because of the beautiful mountain scenery.²⁶ Rice's description of the school as a “pioneering adventure” settled the idea for them and they were delighted upon their arrival by the stunning views and “healthy climate.”²⁷ Neither the language barrier nor any culture shock prevented Albers from declaring upon arrival that his mission at the school was to “open eyes.”

A few years later – at a passionate 1940 college meeting three days after the Nazi invasion of Paris – Albers once again cited Black Mountain's healthy climate, along with the work program and “beautiful mountain woods,” as “significant features” of the school's pursuit of democratic education.²⁸ According to Albers, the democratic ideal is achieved through an appeal to humanity, where the individual and the group maintain an interdependent and reciprocal relationship. As opposed to the flattening of the individual in fascist ideologies, Albers sought to propel the idea that local communities can have global impacts because they give the individual freedom to grow as well as the impetus to seek direction.

Albers grew up in the industrial city of Bottrop, where he was able to observe a variety of skilled tradesmen and craftsmen such as his own father.²⁹ At the Bauhaus, he put these early experiences to good use in his courses by helping to refine Walter Gropius's mission to merge the categories of fine art and craftsmanship. At Black Mountain, alongside his teaching, he modelled a more active citizenship by taking on the role of the school's “unofficial landscape architect,” in charge of maintaining its roads and pathways.³⁰ Following Dewey's “learning by doing,” Albers understood that adaptability to the environment was a precursor to making conscious choices. The student, in other words, is beholden to their present circumstances, through which they can best make sense of the world.

First published in 1916 and translated into German soon after, Dewey's *Democracy and Education* was influential to Albers before he ever came to Black Mountain. Jeffrey Saletnik has traced both Albers and Dewey's pedagogies to a "long-standing tradition of Enlightenment and Romantic thought that prioritized active learning."³¹ An important facet of this lineage for Albers in particular was the study of natural history. In his essay "Art as Experience," published two years after his tenure at Black Mountain began, he recalled:

We as children had to learn natural history, which tried to classify or dissect the phenomena of nature. But we soon underwent the experience that pressed herbariums are not nature at all...or that anatomy has to do mostly with dead bodies.

After this funereal experience with dried leaves and stuffed owls and squirrels we felt a deep need of going out of doors to get, instead of the separated parts, the connection between them; instead of scientific systematizing, the events of life, the vital functions, the conditions essential to life – in short, to get life.³²

Saletnik maintains that, as an adult, Albers's training as a primary school teacher in Germany differed in its emphasis on experimentation and observation in the instruction of natural history.³³ These lessons aided in the comprehension of complex environments and ideas by breaking them up into constituent parts, like studying leaves to get a fuller understanding of the tree. As useful as this could be for developing a keen perceptual eye to underlying structures, Albers was skeptical of the utility of classification as the means to an end – "Linnaeus, the botanist, built his classifications after many experiences and much investigation. How could we have begun children's botanical studies with his final results!"³⁴ Rather, Albers's challenge was to imbue the analysis of these constituent parts with real-life applications, notably achieved at Black Mountain through his leaf studies.

At the Bauhaus, Albers had developed his material and *matière* lessons, designed as part of his Preliminary Course (*Werklehre*). While the material studies focused on the inherent abilities of various materials, including how they could be

folded, cut, stretched, etc, the *matière* studies stressed the appearance of materials, especially in regards to how these appearances affect our perception. By grounding art practice in the primacy of material properties, Albers encouraged a focused attention to the process of creation while discouraging the interjection of self-expression. To him, perception was too often a product of habit or routine, but mindful experimentation with materials could demonstrate its inherent mutability, thereby bringing an awareness to how habits are formed.³⁵ Accordingly, Albers's model required students to observe "nature" as a constructed category whose appearances could then be rearticulated as an exercise of abstracted forms.³⁶ At Black Mountain, his students often pulled their materials directly from the natural environment, incorporating seeds, dirt, wood, leaves, and even cow dung into entirely original compositions. Although most of these unconventional materials were used for the purpose of the *matière* studies, Albers's leaf studies were a unique component of his teachings on color.

In comparison to his time at the Bauhaus, Albers's work in the United States became much more focused on color, the "most relative medium in art."³⁷ He became increasingly interested in meticulous arrangements of different hues, typically through the use of construction paper and/or paint. Eventually this led to his series *Homage to the Square* (1950-1976), which would occupy him for the last part of his life, after he left Black Mountain College for Yale University in 1949.

In his 1963 publication *Interaction of Color*, he referred to the leaf compositions as "a favorite means of study" for the optical qualities of color.³⁸ The leaves, he wrote, were "an American discovery," inspired by the autumn landscape. As Jon Horne Carter has pointed out, at Black Mountain, "color was abundant on the surrounding hillsides."³⁹ Afternoons spent working and relishing time outdoors were also the ideal opportunity to survey the dynamic quality of the changing seasons. After all, some of our more static associations with color come from the environment, since we learn to associate blue with the sky and green with the earth, even if experience dictates these rules to be far from stringent.⁴⁰ Albers's lessons made students more attentive to the relational properties of form by instructing them to manipulate perception through various

controlled arrangements of color. By extension, this made them more aware of their own susceptible position within the surrounding environment.

Notably, the leaf studies were both assigned to students and completed by Albers himself, perhaps as a correction of his own “funereal” childhood experience with dried leaves. However, it is also true that at Black Mountain, the exterior world was by necessity already viewed as an extension of the classroom. The vital interrelationship between human and environment was its own lesson in everyday life at the college, for Albers as well as his students. In a similar way to Albers’s pedagogical emphasis on perceptual clarity, the BMC village learned to support themselves through a trained sensitivity to the world around them. One can only imagine Albers gazing at the chromatically brilliant fall foliage while directing students in paving the campus pathways. He would later proclaim to his students at Yale, “You mustn’t think of the autumn as a time of sadness, when winter is coming, because all the trees, they know winter is coming, so they get drunk! With color! Ach, it’s beautiful! So now bring in leaf studies.”⁴¹



Figure 4. Josef Albers, Leaf study VI, ca. 1942. Oak leaves, colored paper, and adhesive. 24 1/2 x 26 3/4 in. (62.2 x 67.9 cm) © 2025 The Josef and Anni Albers Foundation/Artists Rights Society (ARS), New York. Photo: Tim Nighswander/Imaging4Art.



Figure 5. Saturday night dance, Dining Hall, Lake Eden Campus, Black Mountain College, ca. 1945. Courtesy of Western Regional Archives, State Archives of North Carolina.

Albers's leaf studies gave him the opportunity to explore color and community more deeply. Leaf Study VI shows several leaves painted red and blue while others were left bare, hovering over horizontal bands of dark and light green. The jagged leaves interlock, with the bare ones arranged in a group and the painted ones appearing in pairs; the result is like a dance. The overlapping limbs of the leaves are practically rhythmic, echoed by the pop of the painted leaves against their dark green background. The bare leaves, by contrast, appear gilded against the softer hue of their backdrop, joined together in a lilting chorus. One can innately feel Albers's joy over the explosive color of autumn, as the leaves really do seem to be at their own private party, not unlike

the dances and musical concerts that were made an integral part of life at Black Mountain. One photo from a Saturday night dance in 1945 shows students and faculty dancing together in front of a wall of student work, including what appears to be some leaf studies displaying their own melodic formations.

In another study, Albers's meticulous attention to the particularities of form and material are apparent. The leaves in this case are arranged roughly along a horizontal axis over a dark brown and white background that smoothly merges into the soft, warm tones of the leaves. Each leaf "figure" is actually composed of two "leaves," a real one on top with a paper one behind it, cut so precisely that it perfectly mimics the shape of the real one. By placing lighter colored paper behind the darker-toned leaves, Albers produced a glowing effect, almost saintly in the way it recalls the radiant disc of a halo. The leaves here act as a metonymic device for the trees from which they fell, since we can also imagine the arrangement as akin to a winter evening landscape, where sparse trees radiate against freshly fallen snow. Unlike arrangements made solely from construction paper – another exercise Albers frequently assigned – here variations in texture and surface invite a deeper investigation into the relationships between each element. Although each leaf "figure" may appear similar, they have their own distinct qualities to discover and consider.



Figure 6. Josef Albers, *Leaf study I*, ca. 1940, Leaves, colored paper, and adhesive. 9 1/2 x 18 in. (24.1 x 45.7 cm) © 2025 The Josef and Anni Albers Foundation/Artists Rights Society (ARS), New York. Photo: Tim Nighswander/Imaging4Art

As these readings may suggest, Albers seemed much more invested in the figure/ground relationships in his Leaf Studies than in his more rigidly abstract works. His well-known Homage to the Square series, for example, combines illusory color combinations with abstract geometric boundaries, making the picture surface more readily apparent. The leaves, however, act as characters that are neither completely dependent nor independent of their backdrops. In Leaf Study IV, the two oak leaves appear to shrink and expand as you oscillate your vision between them. One is of course bigger than the other, but this toggling is also a result of their conflicting background colors, red and blue (which can also be read as variations between hot and cold). Because of this, we engage with the leaves much more attentively than we ordinarily would.

Albers generally kept his leaves intact, celebrating their form by not cutting or manipulating them beyond recognition. Rather, the integrity of the leaves points to a curious reversal of normal perception, in which we associate them with being a part of the literal ground. As a result, the relative perception of the leaves as either figure or ground reflects Albers's declaration that "there is no final solution in form; thus form demands unending performance and invites constant consideration."⁴² Life in the village community of Black Mountain, where there was a constant juggle between the education of the individual and the fulfillment of group living, already embodied this principle. In this paradigm, nature and human nature are not so easily separated, but feed into one another at all times. Albers intimately conspired with the immediate natural world to produce a sensitive, almost whimsical articulation of human optical experience. In his view, the instability of perception was not meant to be alienating in its strangeness but empowering in the way it demanded the mental clarity to make ethical choices. The leaf studies, according to Albers, "could make the mundane into art."⁴³



Figure 7. Josef Albers, *Leaf study IV*, ca. 1940. Oak leaves, colored paper, and adhesive, 18 5/8 x 22 1/2 in. (47.2 x 57.2 cm). © 2025 The Josef and Anni Albers Foundation/Artists Rights Society (ARS), New York. Photo: Tim Nighswander/Imaging4Art



Figure 8. Work Truck Flirtation, 1939. Helen Post Modley Photographic Collection. Courtesy of Western Regional Archives, State Archives of North Carolina.

Thus, in practice, the vibrancy of the natural world could provide both sustenance for the broader community and material for artistic investigation. Albers frequently discussed color in terms of its “behavior,” assigning it the agency to act and interact with its viewer. This biologically-inflected terminology is evident in the expressive quality of the leaf studies, which guide our eyes towards a nuanced understanding of the environment. It also maps onto the community of the village, where individual behaviors are mutually reinforcing indicators of social dis/harmony.⁴⁴ Lewis Mumford posited that morality was the invention of the village, where relationships are clearer and stronger than in other societies.⁴⁵ As Albers recounted, in comparison to the Bauhaus, at Black Mountain he felt “much more personally obliged for the creatures under my hands.”⁴⁶

Albers’s leaf studies at Black Mountain were largely made during the Second World War, when BMC students and faculty were more acutely aware of their separation from the rest of the world. At times this position was an uneasy one. But, at least from the outside, it also solidified the idea of Black Mountain as a refuge. In the postwar period, the introduction of summer sessions invited artists and educators to the college for much shorter periods than they would have experienced as full-time faculty. To these visitors, the summer sessions amplified a more idyllic village mentality because they could relish in a life very different from what they experienced in city centers without having to deal with the inevitable tensions and squabbles that affected full-time residents. For the 1948 summer session, R. Buckminster Fuller was invited by Josef Albers to teach a course on “comprehensive design,” a phrase he coined for the first time on the occasion of his visit.⁴⁷

Synergistic Failures & Triumphs

In 1948, Fuller was in the midst of a rough patch in his career. The failure of his previous inventions to come to fruition (including a fatal crash by one of his Dymaxion cars at the 1933 Chicago World’s Fair) had set him up to face a string of criticism and loss of investors.⁴⁸ Skeptics denied that his work had any potential for wide applicability and his position on the fringes of the traditional fields of science and engineering lent him an aura of discredibility. It also didn’t help that Fuller had a particularly gregarious

personality and could easily dismiss critics as being out of line with his futuristic visions rather than accept a need to modify his designs.

In his lifetime, Fuller promoted himself as a singular inventor especially attuned to the secrets of nature. Hsiao-Yun Chu has argued that this an overly simplistic narrative that has dictated the terms of Fuller's legacy and allowed for the appropriation of his creations by seemingly conflicting entities like the U.S. military and radical countercultural communities of the 1960s.[49] In reality, Fuller's experiments relied on a network of collaborators, including universities, that ultimately became his preferred source of readily available intellectual and manual labor.

When he arrived at Black Mountain College, Fuller was thus ready to both take on new design challenges and cultivate a willing audience of students and faculty. Away from the familiar hubs of modern technological design, Black Mountain was a refuge that allowed Fuller to regroup and reconsider elements of his process. Although he came to the college with ideas and calculations in hand for what would become the geodesic dome, his first attempt at constructing one was purposely built out of non-reinforced venetian blinds that could not sustain their own weight enough to be self-supporting. Nicknamed the "supine dome," this first exercise gave Fuller what Eva Díaz has called the "freedom to fail."⁵⁰ Failure, to Fuller, could be rationalized as a necessary step towards a final, holistic end product that could solve what he perceived to be society's biggest problems. Importantly, however, the supine dome also provided him with the space to think through his own failure alongside a group of collaborators that were intellectually (as opposed to financially) invested in his success. Likewise, his participation in the summer theatrical production – Erik Satie's *The Ruse of Medusa* – exposed him to a sense of group play and improvisation that loosened some of his more rigid tendencies.⁵¹ As the Baron Meduse, he learned to let go and play the fool to the delight of the entire ensemble. This is because the already existing dynamics at Black Mountain stressed collaborative power as a key element to honing the abilities of individuals.



Figure 9. Venetian blind dome construction in Summer 1948, with model and Elaine de Kooning. Courtesy of the State Archives of North Carolina.



Figure 10. Buckminster Fuller at Black Mountain College, Summer 1948. Courtesy of the State Archives of North Carolina.

Fuller also appreciated the primacy of art education at Black Mountain because he felt that artists were uniquely positioned to recognize patterns in nature, even before scientists.[52] Artists could be useful in developing scientific models, which Fuller felt were the key to closing the gap between the invisible energies of theoretical science and the perceptual capabilities of the everyday person.⁵³ It was Fuller's dedicated

mission to find and harness “nature’s geometry” for this purpose, since “what we experience of nature is in models, and all of nature’s models are so beautiful.”⁵⁴ For this idea he was indebted to Ernst Haeckel’s *Kunstformen der Natur* (Art Forms in Nature), where he specifically illustrated the geodesics found in nature that were to inspire Fuller’s dome project.⁵⁵ Haeckel also coined the term “ecology,” a branch of biology dedicated to the study of the relationship of organisms to their environment. Black Mountain was a fitting location to test out these models of ecological form, as it was a place especially sensitive to stakes of interrelationships.

Indeed, in the pictures of the failed “supine dome” experiment, a small model of a completed dome sits among the flaccid straps, echoing the majestic Appalachian hills rising out of the distance.⁵⁶ Another shot shows Fuller holding up one of his models, his arm outstretched so that the stark white materials stand out against the lush, organic ridges in the background. It is unclear exactly what the model is for, but within its structure appears the shape of a dome, intricately integrated into the larger scheme. Given the composition of the photo, it is possible to imagine that the model represents a geodesic dome stretched over Black Mountain’s campus on the shores of Lake Eden, with the mountains rising behind it. The continuity between the dome and the landscape’s internal structures in Fuller’s model seems to imply that nature’s innate geometry is within reach, and entirely replicable.

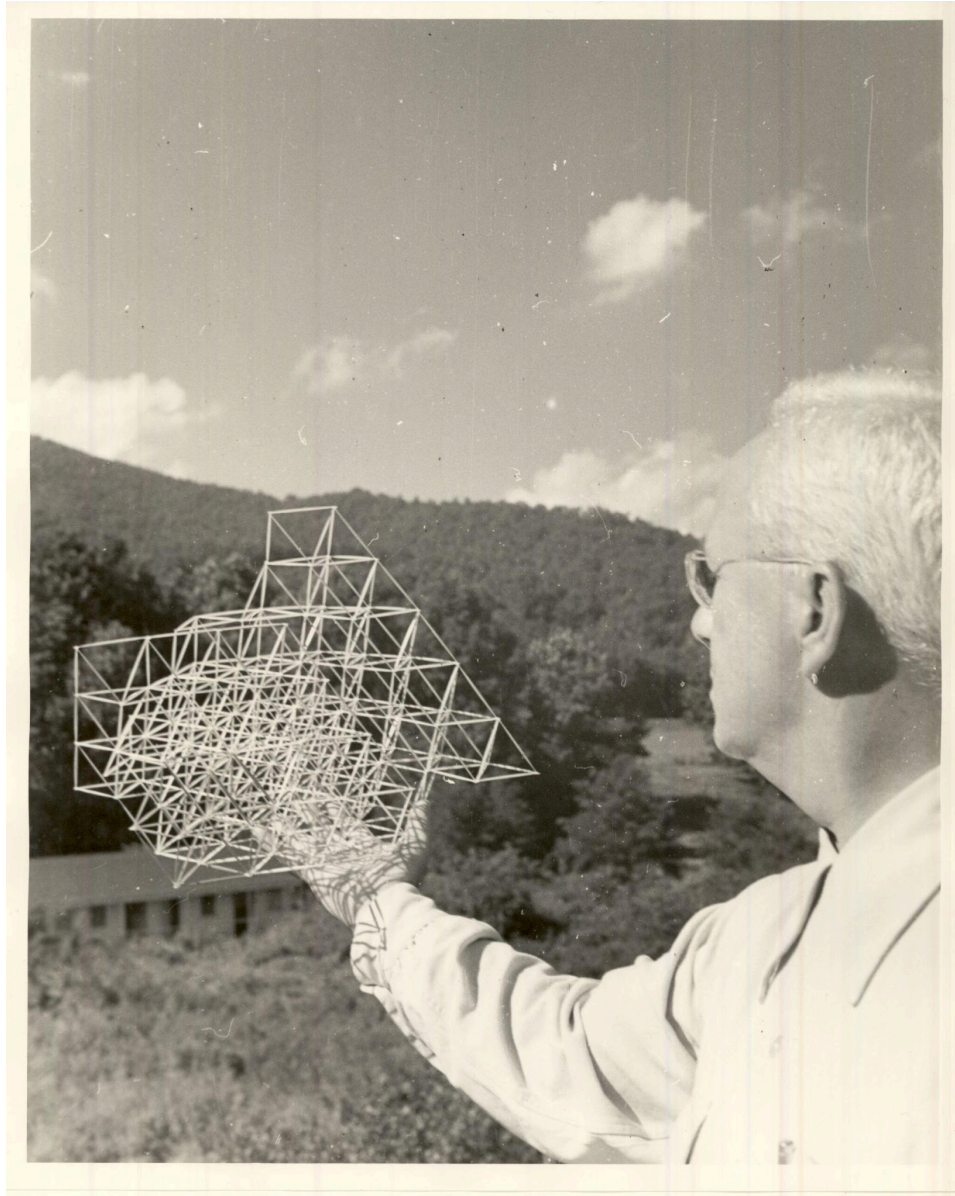


Figure 11. Buckminster Fuller with model. Courtesy of the State Archives of North Carolina.



Figure 12. Students constructing the dome during the 1949 summer session. Courtesy of the State Archives of North Carolina.

In a 1966 interview, Fuller recalled that it was his childhood experience spending summers on an isolated island off the coast of Maine that sparked his interest in comprehensive design.⁵⁷ Beyond just his own biography, he asserted that “the whole development of technology has been in the outlaw area, where you’re dealing with the

toughness of nature.”⁵⁸ In other words, Fuller considered his professional position on the outskirts of traditional categories of science and design to be a strategic one. Black Mountain College, similarly perched on the geographic fringes of both the art and educational worlds, was the right location for him to test his ideas even further.

In the anxious postwar atmosphere, fringe living had even more immediate potential benefits. Since the 1920s, Fuller had considered shelter to be the most productive field for innovation because it acted as a key locus for the distribution of global resources.⁵⁹ Concerned that humans only occupy a small percentage of the earth’s land surface, Fuller imagined his geodesic domes as the solution to urban density, since their lightness and strength made them both portable and durable within even harsh environments like the Arctic or the Sahara. In the nuclear age, a wider spread of human habitation was even more appealing because of the fear of an imminent, incredibly destructive attack.⁶⁰ Fuller envisioned that designers could anticipate and prepare for the unleashing of human-propelled disaster through the development of comprehensive, non-specialized science, which he claimed to be “the antithesis of chaos.”⁶¹

Like Albers’s pedagogical instructions, Fuller’s model of living stressed an economy of labor and resources. He envisioned a synergistic environment in which constituent parts had more meaning together than they could in isolation. The communal atmosphere at Black Mountain College, where each person did their part to keep the place up and running, was another ideal model for Fuller, who declared that “I had a very free field on my comprehensivity at Black Mountain.”⁶² Part of this was likely due to the relaxed atmosphere of the summer sessions, where visitors were not tasked with the same responsibilities as full-time students and faculty. However, Fuller quickly became a part of the village, and was even offered the position of rector after Albers’s departure in 1949.

In fact, it was a collaboration with BMC student Kenneth Snelson that provided Fuller with a major breakthrough for his geodesic dome. Snelson’s sculptural work demonstrated a synthesis of tension and compression that had the possibility to hold immense strength.⁶³ Fuller modified Snelson’s design and called the result “tensegrity,”

a portmanteau of tension and integrity. The next summer, Fuller returned to Black Mountain more prepared to successfully erect a newly designed geodesic dome. He also brought with him about a dozen students from the Institute of Design in Chicago, an institution established as the New Bauhaus by another former instructor, Laszlo Moholy-Nagy. The ID students apparently clashed with those at Black Mountain because of the city dwellers' contempt for the school's "small ambitions."⁶⁴ Nevertheless, the occasion of the triumphant dome marked a turning point for Fuller, who could not only begin marketing his new invention, but also realized the dynamic potential of students as a community of thinkers. The memory of the intimate group that shared in his failures and guided him towards success likely followed him the rest of his career as he continued to seek out student engagements and speak on the progressive power of education.⁶⁵

One for all, all for one

Together, Fuller's geodesic dome exercises and Albers's leaf studies propose that a thoughtful and engaged attention to the outside world creates the possibility for a more empowered subjectivity. Although Albers's focus on the flexibility of perception differed from Fuller's belief in final solutions, they both invested in nature as a vital category for inquiry. In Fuller's 1978 obituary speech for Albers, he relayed that "Albers' perceptivity was so magnificent and his sensitivity so humanly thoughtful as ultimately to advance all of human sensitivity and comprehension."⁶⁶

Albers's leaf studies positioned nature's fundamental changeability as interconnected with the way we move through the world. He affirmed the human capability to make ethical choices based on what we observe and experience through sensitive training. Buckminster Fuller's geodesic dome, on the other hand, presented a techno-utopian vision that used fundamental principles gleaned from nature as the basis for self-preservation and eventual global efficiency. Although his desire to liberate the world of political choice was fundamentally opposed to the basic tenets of Black Mountain, the school's egalitarian structure modeled the kind of comradeship and support that would, in theory, propel his ideal future.

When the residents of Black Mountain College told Louis Adamic in 1936 that they thought of the college as “the village with a touch of the old big family,” they knew they were attempting to capture a dying way of life.⁶⁷ This was felt even more acutely during the war years, when the school had to work harder to maintain itself through pooled resources and shared labor. The 1940s were a tumultuous time in the college’s history but also some of its most constructive years because of the multitude of voices that gathered in the Appalachian mountains, recapturing something of the village mentality that was difficult to sustain in a world that was increasingly connected on a global scale. Although the community shifted drastically over time, the inhabitants of Black Mountain College often cultivated a distinct point of view informed by the interests of the group at large. The school’s founding mission and geographic setting meant that hierarchies between categories like teacher and student, laborer and intellectual, or human and environment, had to be continually renegotiated in order to function.

Albers and Fuller are considered to be two of the most influential figures to emerge from the Black Mountain legacy, but it is clear that being a member of the village influenced them just as profoundly. For Fuller, the refuge of a supportive and attentive audience was brief but impactful. For Albers, his “vocation was his refuge,” which is reflected in some of his own artmaking of the time.⁶⁸ Although they came to the college in the middle of their careers, with their own set of personal philosophies, Black Mountain offered them something beyond a stable financial opportunity (which it certainly wasn’t).⁶⁹ Rather, it offered a lifestyle that could inform the concepts they were already exploring in their respective work. The village implies not just a constellation of social relations between people, but a reliance on the surrounding environment as a point of connection. An attention to this reliance is what guided Albers to “open eyes” to the visible world and Fuller to probe the invisible structures of nature. “In art,” Albers once said, “we have to present an example in which we might live together, and not shoot each other...that’s our collective little baby...”⁷⁰ And to nurture that baby, as the saying goes, it takes a village.

- ¹ David Silver, *The Farm at Black Mountain College* (Atelier Éditions and Black Mountain College Museum and Arts Center, 2024).
- ² Adamic's article was one of the first to publicize Black Mountain and an increase in enrollment inquiries swiftly followed its publication.
- ³ Louis Adamic, "Education on a Mountain: The Story of Black Mountain College," *Harper's Magazine* (April 1936), 516.
- ⁴ *Ibid*, 522-3.
- ⁵ Helen Molesworth, "Imaginary Landscape," in *Leap Before You Look: Black Mountain College, 1933-1957* (Institute of Contemporary Art/Boston, 2015), 47.
- ⁶ *Ibid*, 48.
- ⁷ *Ibid*, 51.
- ⁸ Mary Emma Harris, "Black Mountain College: Experience and Experiment in American Education," *Starting at Zero: Black Mountain College, 1933-57* (Arnolfini Gallery and Kettle's Yard Gallery, 2005), 12.
- ⁹ Eva Díaz, "The Ethics of Perception: Josef Albers in the United States," *The Art Bulletin* 90, no. 2 (2008): 260–85. <http://www.jstor.org/stable/20619605>. This essay also forms the basis for Díaz's chapter on Albers in *The Experimenters* (2015).
- ¹⁰ Interview with Calvin Tomkins, "In the Outlaw Area," in *Buckminster Fuller: Starting with the Universe* (2008), 181 (reprinted from *The New Yorker*, 8 January 1966).
- ¹¹ *Ibid*, 3.
- ¹² Josef Albers, "Historical or Contemporary," in *Josef Albers: Minimal Means, Maximum Effect*, ed. Martínez, L., Toledo, M. & Fontán, M. (Juan March Foundation, 2014), 207 (Originally published in German as "Historisch oder Jetztig?" in *Junge Menschen* 5 (Hamburg), no. 8 (November 1924): 171.).
- ¹³ Martin Duberman, *Black Mountain: An Exploration in Community*, (New York: E.P. Dutton & Co., Inc, 1972), 12.
- ¹⁴ Jon Horne Carter, "A Community Far Afield: Black Mountain College and the Southern Estrangement of the Avant-Garde." In *The Bohemian South: Creating Countercultures, from Poe to Punk*, ed. Shawn Chandler Bingham and Lindsey A. Freeman (University of North Carolina Press, 2017), 54.
- ¹⁵ Silver, 559.
- ¹⁶ *Ibid*.
- ¹⁷ Duberman, 165.
- ¹⁸ *Ibid*, 167.
- ¹⁹ Silver, *The Farm* (2024).
- ²⁰ There is more to be said about how the move from the Blue Ridge campus to Lake Eden affected community dynamics, which deserves to be considered in depth elsewhere. For more on this, see David Silver, *The Farm at Black Mountain College* (2024).
- ²¹ Carter, "A Community Far Afield."
- ²² *Ibid*, 58-63.
- ²³ "The period from lunch time until four was deliberately kept free so that people could get out of doors. Some would take part in the work program, cutting wood, digging on the farm, helping to improve the college road." Duberman, *Black Mountain*, 51.
- ²⁴ Carter, 63.
- ²⁵ Duberman, 243.
- ²⁶ Duberman, *Black Mountain*, 56.
- ²⁷ *Ibid*, 56-7.
- ²⁸ Josef Albers, "Address for the Black Mountain College Meeting, June 12, 1940," Josef and Anni Albers Foundation.
- ²⁹ Heinz Liesbrock, "Movement in Stillness: Josef Albers's Ecstasy of Color," in *Painting on Paper: Josef Albers in America*, ed. Heinz Liesbrock and Michael Semff (Hatje/Cantz, 2011), 17.
- ³⁰ Silver, *The Farm* (2024), 69. In a delightful anecdote on p. 65, Silver also recounts an anecdote from a BMC student who had sought Albers's advice on the organization of the farmland. Wisely, Albers instructed them to keep the farmhouse upwind of the pigpen.
- ³¹ Jeffrey Saletnik, *Josef Albers, Late Modernism, and Pedagogic Form* (University of Chicago Press, 2022), 27.

- ³² Josef Albers, "Art as Experience," Josef and Anni Albers Foundation (originally published in *Progressive Education*, October 12, 1935).
- ³³ Saletnik, 40.
- ³⁴ Albers, "Art as Experience."
- ³⁵ Diaz, *The Experimenters*, 26-27.
- ³⁶ *Ibid*, 29.
- ³⁷ Josef Albers, *Interaction of Color* (1963; Yale University Press, 1971).
- ³⁸ *Ibid*.
- ³⁹ Carter, 56.
- ⁴⁰ Molesworth, 33. Molesworth writes that Albers's course showed that "the experience of color was ultimately fungible" despite our ingrained associations of specific colors with nature.
- ⁴¹ Qtd in Frederick A. Horowitz and Brenda Danilowitz, *Josef Albers: To Open Eyes: The Bauhaus, Black Mountain College, and Yale* (London/New York: Phaidon, 2006).
- ⁴² Albers, *Interaction of Color*.
- ⁴³ Horowitz and Danilowitz, 232.
- ⁴⁴ Critchfield, 344.
- ⁴⁵ Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects* (Harcourt, Brace and World, 1961), 15.
- ⁴⁶ Duberman, 61.
- ⁴⁷ Diaz, *The Experimenters*, 101.
- ⁴⁸ Two 1948 profiles in *Fortune* and *Science Illustrated* in particular questioned his ability to follow through on effective inventions.
- ⁴⁹ Hsiao-Yun Chu, "The Evolution of the Fuller Geodesic Dome: From Black Mountain to Drop City," *Design and Culture*, 10:2 (2018): 121-137, 10.1080/17547075.2018.1466228
- ⁵⁰ Diaz, *The Experimenters*, 139.
- ⁵¹ Alden Hutch, *Buckminster Fuller: At Home in the Universe* (Crown Publishers, 1974), 190.
- ⁵² Dana Miller, "Thought Patterns: Buckminster Fuller the Scientist-Artist," in *Buckminster Fuller: Starting with the Universe* (2008), 21.
- ⁵³ Tomkins, "In the Outlaw Area," 186.
- ⁵⁴ *Ibid*, 187.
- ⁵⁵ Chu, 124.
- ⁵⁶ For more on the different photographers involved in documenting Fuller's experiment, see Julie J. Thomson, "Seeing More Than Failure: The Photographs of Buckminster Fuller's 1948 Dome by Beaumont Newhall, Trude Guermonprez, Josef Albers, and Hazel Larsen Archer," *Appalachian Journal* 44/45 (2017): 482-92, <http://www.jstor.org/stable/45124301>.
- ⁵⁷ Tomkins, "In the Outlaw Area," 182.
- ⁵⁸ *Ibid*, 197.
- ⁵⁹ R. Buckminster Fuller, *Operating Manual for Spaceship Earth* (Carbondale: Southern Illinois University Press, 1969).
- ⁶⁰ "[Fuller's] work stands at the crossroads of a period in which war's destruction was frequently attributed to political shortsightedness, not to overinvestment in a limited range of (often military) technologies. One of the comprehensive designer's main tasks was anticipating the effects of an imminent, devastating nuclear episode, an event Fuller portrayed as yet another indictment of the political misapplication of technology, in no way connected to munitions profiteering and the interpenetration of science research with military spending." Diaz, *The Experimenters*, 145.
- ⁶¹ *Ibid*, 110.
- ⁶² *Ibid*, 135 (original quote from an interview with Duberman).
- ⁶³ *Ibid*, 115.
- ⁶⁴ Duberman, *Black Mountain*, 316.
- ⁶⁵ Tomkins, 207-8.
- ⁶⁶ Buckminster Fuller, "Josef Albers (1888-1976)," *Leonardo* 11, no. 4 (1978), 311.
- ⁶⁷ Adamic, "Education on a Mountain," 523.

⁶⁸ Brenda Danilowitz, "Josef Albers: Exile and Émigré," in *Josef Albers: Interaction*, ed. Heinz Liesbrock and Ulrike Growe (Yale University Press, 2018), 21.

⁶⁹ In fact, Albers reportedly turned down multiple job offers after his arrival in the U.S. and stayed at BMC for over 15 years. Fuller took a pay-cut from his usual speaking fee to direct the 1949 summer session.

⁷⁰ Qtd in Díaz, "The Ethics of Perception" (from Albers, transcript of taped lecture, "At Yale; from Barry Cohen," NC State Archives).