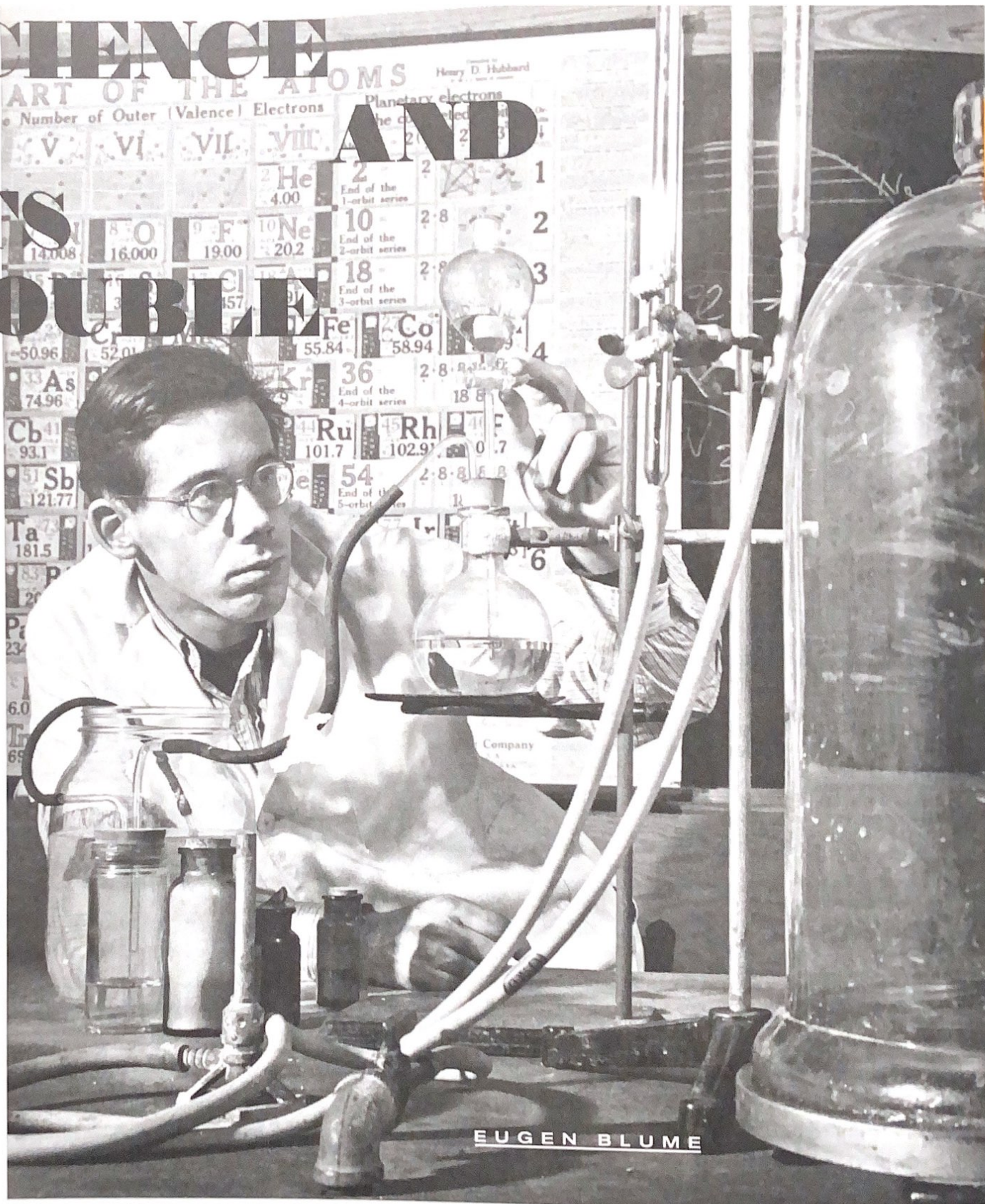


SCIENCE ART OF THE ATOMS AND ITS DOUBLE



EUGEN BLUME

The question posed in the sciences about the internal relationships in nature frequently finds its way back to that questionable space divested of rationale from which art has always drawn its necessity or power. Even though art and science have existed largely independently of one another since the specialization driven by the Enlightenment, a shared experimental framework, however it is cre-

ated, generates an open laboratory situation. Art and science are, in some respects, their reciprocal doubles.

This shadowy synergy of creative thinking is expressed in the promising reality of the idea of the university, which in the oscillating community of teachers and students, experiences a scientific and cultural practice in the wider sense. This liberal, educational society, oriented towards cognizant action, was the objective of the first modern university established in Berlin in 1809,¹ and all subsequent institutions that see themselves as unconditional organizations of thought, which evolved mainly as a result of opposition to the idea of a liberal education that had ossified in institutionalization. Black Mountain College emerged from this spirit of opposition.

The concept for Black Mountain was characterized by the American tradition of a "liberal arts education,"² a democratic sensibility and the charisma of its founders, who espoused the ideas about educational reform set out by the philosopher John Dewey³ while simultaneously drawing on their own concepts of education. Dewey's experience and project approach meant it was appropriate to put art side by side with arts and science as a universal level of com-

¹ The aim of the idea of the university conceived by Wilhelm von Humboldt, Friedrich Schleiermacher and Johann Gottlieb Fichte was unconditional research, science for its own sake, and the formation of personality. See, for example, Wilhelm Weischedel (ed.), *Idee und Wirklichkeit einer Universität: Dokumente zur Geschichte der Friedrich-Wilhelms-Universität zu Berlin* (Berlin: De Gruyter, 1960).

² Yale University was informed by this concept from 1701; to date it is the only university in the USA at which students do not immediately have to decide what they are going to study. Josef Albers taught at Yale as head of the design department after his time at Black Mountain College.

³ John Dewey was well known in Germany from the 1920s onwards. His declaration on education, *My Pedagogic Creed*, written in 1897, was published in *Zeitschrift für christliche Erziehungswissenschaft und Schulpolitik* 15 (1922): 468–476 and was undoubtedly accessible only to a minority. Only the publication of his 1916 magnum opus *Democracy and Education: An Introduction to the Philosophy of Education*, translated into German by Erich Hylla, in Breslau in 1930, gained wider currency and also influenced Bauhaus education. The book that he co-wrote with William Heard Kilpatrick, *Der Projektplan: Grundlegung und Praxis* (Weimar: Bohlau, 1935), also played an important role.



Will Hamlin in the chemistry lab at Black Mountain College, ca. 1945

John Andrew Rice with David Bailey (both on the right) and other students on the Blue Ridge Campus of Black Mountain College, 1930s

munication.⁴ There is no doubt that the college could have managed without art or could have limited itself to the usual literary and musical performance practice provided by the humanities subjects. The close link with the philosophy of education espoused by Dewey, who himself served on the Advisory Council of Black Mountain College for a time, inspired the classical scholar John Andrew Rice and the physicist Theodore Dreier, who co-founded the college in 1933, to look around for suitable *free* artists. The reports delivered to them by Philip Johnson, then curator of the department of architecture at New York's Museum of Modern Art, about Josef Albers's preparatory course at the Bauhaus in Dessau, sounded very like Dewey's popular mantra of "learning by doing."⁵ Albers and his wife Anni seemed to be the ideal practitioners to help establish a progressive, democratically organized institution, as Rice euphorically declared it in the early days of the college.⁶

According to Dewey's teaching principles, boarding school education constituted the most radical form of education, as it had to prove in practice the concept of a democratic education in the inseparable life events of a "community." In this respect, the college, as an experience of a self-organized community, was not, like conventional educational institutions, an "assembly point of ideas" as J. Robert Oppenheimer once described the Institute for Advanced Study in Princeton of which he was director. Instead, it had always been, as the last Black Mountain rector Charles Olson wrote in 1952 in a letter to the teaching staff, an "assembly point of acts."⁷ The concept of experience, revolutionized by Dewey, was key to the customary interactive relationship between art and science at Black Mountain College, even if it was initially an unspoken objective to teach, or better still *experience*, an anthropological art of knowledge.

This direction, taken from the beginning by John Andrew Rice and his colleagues, provided a strong impetus for Olson in the final phase of the college. He addressed the plan of establishing an Institute of the New Sciences of Man at Black Mountain, which he based on Oppenheimer's Institute for Advanced Study, as both institutes pursued the same "sober, modest, concentrated task" of penetrating the unknown. However, for Olson, science was not an "infinite regress of further and further analysis of the material world,"⁸ but "an infinite regress of further and further analysis of man's world."⁹ It was no accident that he distanced himself from Oppenheimer's narrow concept of science in his memorandum on the future direction of the college. As the "father of the atom bomb," Oppenheimer was a controversial figure in materialist academic life. One of the few women who played a leading role in Oppenheimer's Manhattan Project was physicist, and subsequently Black Mountain College teacher, Natasha Goldowski, whom Olson quoted directly in his letter.¹⁰ Goldowski brought to Black Mountain her experience as a key witness to the problematic practice of science in the twentieth century.

In the *Black Mountain College Bulletin* of 1951, she published her lecture "Physics for Liberal Arts Students," which she had delivered to the American Physical Society in 1949. In it, she spoke about the need to introduce scientific knowl-

edge into "normal" life and, as befits a democratic knowledge society, make it accessible to everyone, whether they are destined to become "artists, businessmen, farmers, housewives, or scientists."¹¹ In the same year, 1951, Goldowski published "High Speed Computing Machines," a surprisingly prescient essay about the future of a digital society. This appeared in the first issue of *The Black Mountain College Review*, edited by M.C. Richards. In her paper she refers to Norbert Wiener, who had coined the term "cybernetics" in academic discourse only three years earlier. At a time when the advancements she had outlined could scarcely be imagined, Goldowski claimed: "The introduction of the high-speed computing machine into human society will of necessity modify our lives and will affect all the phases of the society, and in particular, education."¹²

Olson, who had been present at Goldowski's talk on cybernetics,¹³ also cautioned against excessive euphoria regarding this new, undreamt-of storage of knowledge by interactive, "intelligent" machines, and he appealed to his colleagues: "quote, Natasha, on 'not things, but what happens between things.'"¹⁴ He likened the conceptual proximity of the "physis & psyche" to the ambivalence of "poetry" and "truth" as used by Johann Wolfgang von Goethe in the title of his autobiography. Essentially, he drew on a Romantic topos, on the relationship between nature and the soul (physis & psyche) discussed at the end of the eighteenth century or "between nature as outside & of experimentable substance, and nature as man is inside & only experimental by image."¹⁵

Academic activity related to Romanticism influenced Black Mountain College from the very beginning, not to mention the location of the college itself in the forested landscape of North Carolina, which itself resembled a Romantic community par excellence. Henry David Thoreau's *Walden, Or Life in the Woods* found a modern expression in the building project which began at Lake Eden in 1940. As a classical scholar, co-founder John Andrew Rice went beyond Dewey in his educational ideas. He was also influenced by a classical education, particularly by the maieutics method developed by Socrates, by the discourse and dispute, the incessant babble or "gab-gab-gab," as Olson casually

4 John Dewey, *Art as Experience* (New York: Putnam, 1934).

5 Philip Johnson visited Dessau several times between 1929 and 1930; see Franz Schulze, *Philip Johnson: Life and Work* (Chicago: University of Chicago Press, 1994), 54 ff. and Margret Kentgens-Craig, *The Bauhaus and America: First Contacts 1919–1936* (Cambridge, MA: MIT Press, 2001).

6 Even though Rice frequently thought about the key role of art in an education system that aimed at educating democratic individuals, and occasionally expressed himself on this topic in the early phase of the college, as Katherine Chaddock Reynolds writes in her biography about Rice, too little on this topic has been retained in writing. See Reynolds, *Visions and Vanities: John Andrew Rice of Black Mountain College* (Baton Rouge: Louisiana State University Press, 1998), 104.

7 Charles Olson, "A Letter to the Faculty of Black Mountain College, March 21, 1952," *Olson: The Journal of the Charles Olson Archives* 8 (Fall 1977): 26–33 at 27.

8 *Ibid.* At this point Olson quotes repeatedly from Oppenheimer's manifesto for the IAS in Princeton.

9 *Ibid.*, 28.

10 Initiated in 1942, the Manhattan Project was the secret military research project tasked with developing and building the atomic bomb, which was dropped for the first time on Hiroshima and Nagasaki in 1945. See Ruth H. Howes and Caroline L. Herzenberg, *Their Day in the Sun: Women of the Manhattan Project* (Philadelphia: Temple University Press, 1999), 83–84. Dr. Nathalie Michel Goldowski was of Russian-Jewish descent and taught physics and chemistry at Black Mountain College. In 1917 she fled to France with her mother to escape the Russian Revolution. Following the German occupation in 1942 she left Paris where she had taught at the Sorbonne. She became a US citizen in 1947. She participated in the Manhattan Project at the university in Chicago and in the Telemeter Project at Palmer Physical Laboratory in Princeton. Her area of specialization in metallurgy was corrosion. Born in 1908, she died on October 22, 1966 in Guadalajara, Mexico. Her mother, Madame Anna Goldowski, taught French and Russian at the college. See *Black Mountain College Bulletin* 6 (1947).

11 The lecture was delivered at the fifteenth annual meeting of the Southeastern Section of the American Physical Society in April 1949. See *Black Mountain College Bulletin* 3 (1951): 32.

12 *The Black Mountain College Review* 1, no. 1 (June 1951): n. p.

13 Goldowski also delivered a lecture on Norbert Wiener's theory of cybernetics at Black Mountain, which was very well attended. See Martin Duberman, *Black Mountain: An Exploration in Community* (New York: E. P. Dutton, 1972), 374.

14 Olson 1952 (as note 7), 34.

15 *Ibid.*, 31.

The Americans

the cosmologist says
what constitutes a society:
an assemblage of atoms
makes the thing go

why the social stinks
—and each American stinks—
is that it is an inadequate
number of cells they are
sitting in a room,
to constitute an organism

they aren't cooked
and ruled by information

turn now and rise
Wrest the matter into your own
hands—and Nature's laws

referred to it, which was a constant feature of life, learning and teaching at the college. Yet, in this open, questioning performativity¹⁶ the academy in North Carolina resembled early Romantic circles in which scholars, poets, philosophers, theologians and artists met in order to discuss the unresolved issues of a poetic world view and also often to be present at scientific experiments. Such learning situations had a propaedeutic and performative character, performative not only in the sense of a poetic "science theater,"¹⁷ but also in transcending prevailing conventions. They formed the first definitively provocative community, which saw its propositions arising out of a synergy of art and science as future-oriented action. Reuniting art and science was seen as an act of liberation, as an expansion of thought through action, a model of freedom, not a question of the conventional accumulation of knowledge and aesthetic fertilization but a search for what occurs between things.

Consequently, the exact enters into an alliance with a productivity that is continually losing all restraint; the objective opens up to a radical understanding of a subject, and vice versa. The main thing that science learns from art is the unconditionality that transcends boundaries¹⁸ as a prerequisite to finding all truth. Novalis's claim that "every man should be an artist"¹⁹ summarized this view in a way that was visionary while at the same time, admittedly even without Dewey's understanding of democracy, outlining an education model that was taken on board in the twentieth century primarily by the artist Joseph Beuys in his views on education. These were described by Charles Olson in the case of Black Mountain College as "man's own act & man's act with others,"²⁰ an anthropological art of social experience which is not satisfied with the usual but searches for the other.

The first of the Bauhaus teachers to move to America, Josef Albers, brought with him the idea that "teaching and learning [should be] understood and jointly practiced as a mutual obligation by teachers and students." According to Albers, "seeing" rather than "knowing" was power.²¹ Albers's teaching of form, and especially color, was fuelled by various sources. Asserting the supremacy of seeing over the power of knowledge, based on Romantic ideas, which were widespread at the Bauhaus in Weimar through Rudolf Steiner's theory of color, the absolutization of color based on Goethe's color theory, was particularly prevalent among Wassily Kandinsky, Paul Klee and Johannes Itten.

Figures like Hugo Ball and Joseph Beuys in particular are proof that the Romantic legacy extended far into the twentieth century. At Black Mountain it was primarily the poet Charles Olson, the dominant figure in the college between 1951 and 1957, who, like John Cage, was influenced by the American or Anglo-Saxon "Romantic" movement, namely by Herman Melville, William Blake, Henry David Thoreau, Ralph Waldo Emerson and the historian Francis Parkman. The latter had lived among native American Indians for a time. The self-reliance, the belief in the individual, in the creaturely being as the formative agent of consciousness, and in the primeval, are crucial prerequisites for the development of personality as represented by Olson, for example, in his theory of

education. "If there is any absolute," wrote Olson in his 1951 essay "The Human Universe," "it is never more than this one, you, this instant in action."²² His famous text about projective verse²³ revolutionized poetry and strived above all for reality: "It comes to this: the use of a man, by himself and thus by others, lies in how he conceives his relation to nature, that force to which he owes his somewhat small existence."²⁴ He claimed "nature" for the verse, which "if it is to go ahead, if it is to be of essential use, must [...] catch up and put into itself certain laws and possibilities of the breath [...]"²⁵ Olson shared the idea of the breath as the basic rhythm for verse derived from Ezra Pound with the German poet and translator Rainer Maria Gerhardt, who was a friend of his and whose suicide at a young age caused him to "leave Europe."²⁶

The German poet, translator and publisher Rainer Maria Gerhardt with his wife Renate



¹⁶ Performativity in this context is deemed to be an utterance, a link between language and action, as J. L. Austin coined it in *How to Do Things with Words* (Oxford: Oxford University Press, 1962), and as it is understood by Olson in his 1950 manifesto pamphlet "Projective Verse."

¹⁷ See Klaus Richter (ed.), *Der Physiker des Romantikerkreises Johann Wilhelm Ritter in seinen Briefen an Carl Friedrich Ernst Frommann* (Weimar: Bohlau, 1988) and Ritter's work *Physik des Lichts* (Munich: Lindauer, 1806).

¹⁸ See Jacques Derrida, "The University without Condition," in *Without Alibi* (Stanford: Stanford University Press, 2002).

¹⁹ Novella: "Glaube und Liebe und politische Aphorismen 1798," in *Werke, Tagebücher und Briefe Friedrich von Hardenbergs in drei Bänden*, ed. Hans-Joachim Mahl and Richard Samuel (Munich and Vienna: Carl Hanser, 1978), vol. 2, 287–309 at 303.

²⁰ Olson 1952 (as note 7), 26.

²¹ Eckhard Neumann (ed.), *Bauhaus and Bauhaus People: Personal Opinions and Recollections of Former Bauhaus Members and their Contemporaries* (New York: Van Nostrand, 1970).

²² Charles Olson, "The Human Universe" [1951], in *Collected Prose*, ed. Donald Allen and Benjamin Friedlander (Berkeley, Los Angeles and London: University of California Press, 1997), 155–166 at 157.

²³ Charles Olson, "Projective Verse," *Poetry New York* 3 (1950). The text was reprinted in *ibid.*, 239–249.

²⁴ *Ibid.*, 247.

²⁵ *Ibid.*, 239.

²⁶ The quotation comes from Charles Olson, "The Death of Europe: A Funeral Poem for Rainer Maria Gerhardt" [1954], published in *Origin* 16 (Summer 1955). Published in German for the first time in: Gregory Corso and Walter Höllerer (eds.), *Junge Amerikanische Lyrik* (Munich: Carl Hanser, 1961), 7–23. Gerhardt took his own life in 1954.

What happened at Black Mountain College could be seen as experimental, anthropologically oriented empirical science, which did not systematically adjust its results but despite all the seemingly random perspectives of its representatives generated a spirit that remained alive until the last days of the college. Dewey saw experience as a continuous and interactive process of knowledge acquisition that extended beyond conventional Empiricism. This concept of experience informed the college's clear preference for the open, experimental field over the authoritarian, closed, unexperienced (or, in keeping with Dewey, "suffered") placement of knowledge. The leading figures in this institution were united in stressing that they had a preference for knowledge acquired through action with the risk of failure rather than a conventional transfer of knowledge. The prototype of the visionary artist-engineer, Richard Buckminster Fuller, who was a groundbreaking figure at the Black Mountain summer institutes of 1948 and 1949, publicly announced: "I have learned much; but I don't know very much; but what I have learned, I have learned by trial and er-



ror. And I have great confidence in the meager store of wisdom that I have secured."²⁷ John Rice had written in a similar vein in his founding manifesto of 1933 with respect to productive questioning: "A man who never asks himself any questions had better not try asking others."²⁸ Olson, who reprinted Rice's manifesto about the "heretical" college in the 1952 spring semester bulletin, also opened one of his lectures with some words of support for the experimental: "Let me try on some imaginative errors, merely for the light they may throw."²⁹

Science, or the question about science, which as defined by Dewey included art as the universal and most original form of transcending boundaries, played a key role at Black Mountain College, which was founded by scholars, until the college closed in 1957. This interest was encouraged in a special way by the European émigrés with an academic background who taught at the college. The fact that most of them were not teachers and, as Rice emphasized at the faculty meeting on September 28, 1936,³⁰ that teachers must first learn how to teach, fostered the democratic debate about the *concept* that the college tried to realize. This discourse was kept alive by the carefully chosen personalities who subsequently arrived; it evolved into a permanent conference that was never concluded.

Not all subjects were taught but depended on the "supply" of potential teachers, mostly hired as a result of emigration. They included excellent researchers, whose paths led to Black Mountain College.³¹ Nevertheless, the breadth of the fields of knowledge is surprising. The early interest in psychology and psychoanalysis, subjects that were initially taught by Irving Knickerbocker and Fritz Moellenhoff and subsequently by Erwin Straus, belonged, as it were, to the natural area of interest of a self-educating community. During his period of office, Olson fueled this interest with his attempt to establish an institute of human sciences and invited, not by chance, C.G. Jung from Zurich to teach at the college.³²

Fritz and Anna Moellenhoff were friends of Anni and Josef Albers from their time in Berlin. Fritz Moellenhoff belonged to the close circle of the psychoanalytical journal *Imago*, established by Sigmund Freud, Hanns Sachs and Otto Rank in 1912. He published his famous essay "Remarks on the Popularity of Mickey Mouse"³³ in its successor journal, *American Imago*. After the Moellenhoffs' departure for Chicago, Straus, who was a successful professor of psychiatry at the university in Berlin and was also forced to emigrate due to his Jewish roots, became a teacher of philosophy and psychology at Black Mountain. Straus, who was influenced by Edmund Husserl's phenomenology, was an important proponent of psychological anthropology. He wrote his magnum opus

²⁷ Richard Buckminster Fuller, *Education Automation* (Carbondale, IL: Southern Illinois University Press, 1962), 7.

²⁸ John Andrew Rice, quoted in Charles Olson, "Introductory Statement," *Black Mountain College Catalogue*, Spring Semester, 1952, reprinted in Olson: *The Journal of the Charles Olson Archives* 2 (Fall 1974): 25–27 at 26.

²⁹ Charles Olson, "Sunday, Session #8, March 1st" [1953], Olson: *The Journal of the Charles Olson Archives* 10 (Fall 1978): 3–109 at 48.

³⁰ Faculty Meeting, September 28, 1936, Black Mountain College Papers, Western Regional Archives, State Archives of North Carolina, Asheville, NC.

³¹ See the essay by Brenda Danilowitz in this catalogue, 58–71.

³² Charles Olson wrote to C.G. Jung on December 7, 1952. See Ralph Maud, *Charles Olson's Reading: A Biography* (Carbondale, IL: Southern Illinois University Press, 1996), 98. Jung could not take up the offer for health reasons and sent his colleague Maria von Franz instead.

³³ The essay was published in June 1940 in *American Imago* 1, no. 3 (1940).

The Primary World of the Senses in 1935.³⁴ Josef Albers was not familiar with Straus's thoughts on the perception of color outlined in this work, but this is an example of how topics cross disciplines and complement one another. Similarly, Straus's theory on dance and music is likely to have supported their role as a community-building experience at the college. Dance, for Straus, was a "presentist movement," which leads to an original experience in time and space as "the immediate communication we have with things on the basis of their changing mode of sensory givenness."³⁵ These are early observations that are helpful to an understanding of improvised dance and its subsequent performance.

Straus's most important contact was probably the American anthropologist Paul Radin, who taught at the college around the same time as Straus. Radin, who felt himself drawn to C. G. Jung's depiction of mythology from early on and after the war taught at Jung's institute in Zurich, had undertaken groundbreaking studies of culture "in the primitive world." His work was characterized by a new, unbiased spirit. His notion of the trickster also harbors a wealth of imagery for the relationship between art and science.³⁶ For example, in 1974, Joseph Beuys prepared himself for his famous *I like America and America likes Me* action not only by reading Radin's *The Trickster: A Study in American Indian Mythology*³⁷ (published in 1956) but also by confronting the trickster, as the alter ego of the modern artist, with an American Indian myth. We can assume from this that the constant fascination at Black Mountain College with the early cultures of Mexico, expressed, for example, by the many trips made by Josef and Anni Albers to Mexico, were also influenced by Radin's research and lectures. Josef and Anni Albers were certainly aware that their colleague was one of the leading anthropologists who had researched this culture in depth. His studies on the language of the Mexican Zapotecs, whose abstract mosaics Albers photographed in *Mitra*, may also have been of interest to Olson in his own research on the Mayan language, although, strangely, he did not mention this in his "Bibliography on America."³⁸ No doubt the question violently inscribed upon their biographies of what had caused the inhumanity of the racist regime they had fled would have drawn them to Radin, himself a Jew. In him they found a man who as early as 1934 had already written critically about the race myth in his book *The Racial Myth*. The brilliant American sociologist Herbert Adolphus Miller, who taught at Black Mountain College in the late 1940s, continued this theme with his research into minorities and race issues.

³⁴ Erwin W. Straus, *The Primary World of the Senses: A Vindication of Sensory Experience* (New York: Free Press of Glencoe, 1963).

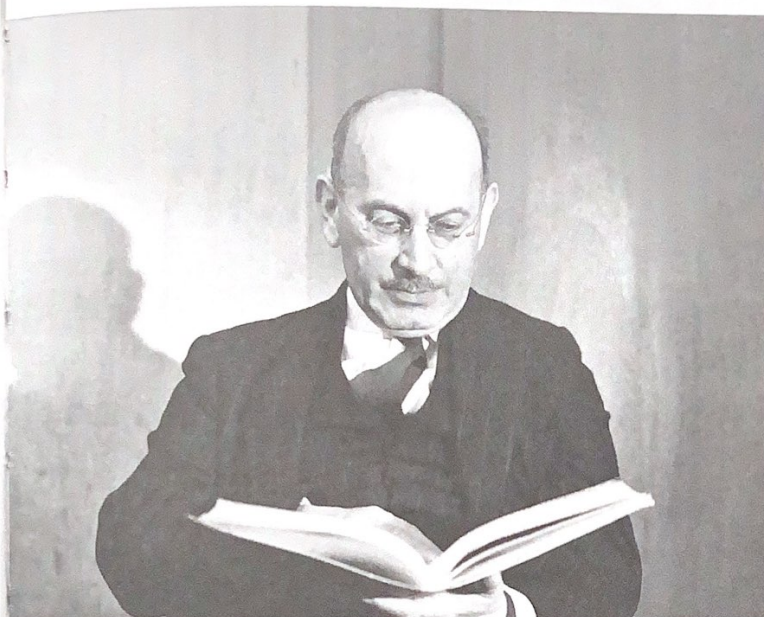
³⁵ Erwin W. Straus, "The Forms of Spatiality" (1930), in *Phenomenological Psychology: The Selected Papers of Erwin W. Straus* (New York: Basic Books, 1966), 3-37 at 12.

³⁶ The trickster is an ambivalent mythical figure found in all cultures. He is synonymous with the prankster, the clown (and to some extent with the artist). He is superior to other people and, at the same time, due to his "irrational" actions, is also doomed to failure.

³⁷ Paul Radin, *The Trickster: A Study in American Indian Mythology, with Commentaries by Karl Kerényi and C. G. Jung* (New York: Philosophical Library, 1956).

³⁸ Charles Olson, *A Bibliography on America for Ed Dorn* (San Francisco: Four Seasons Foundation, 1964), reprinted in Olson 1997 (as note 22), 297-310.

Cover of Paul Radin's book *The Trickster: A Study in American Indian Mythology*, 1956

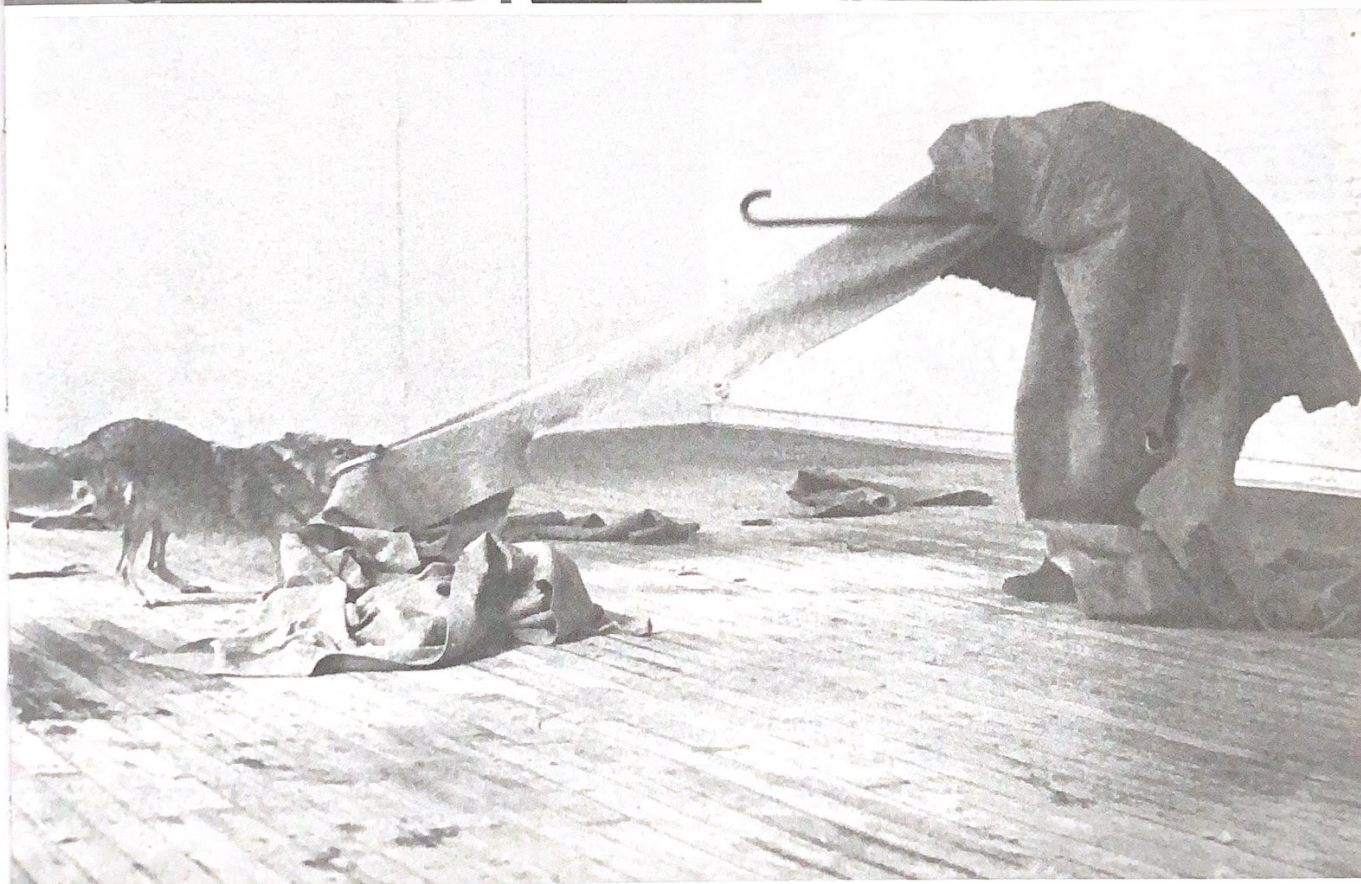


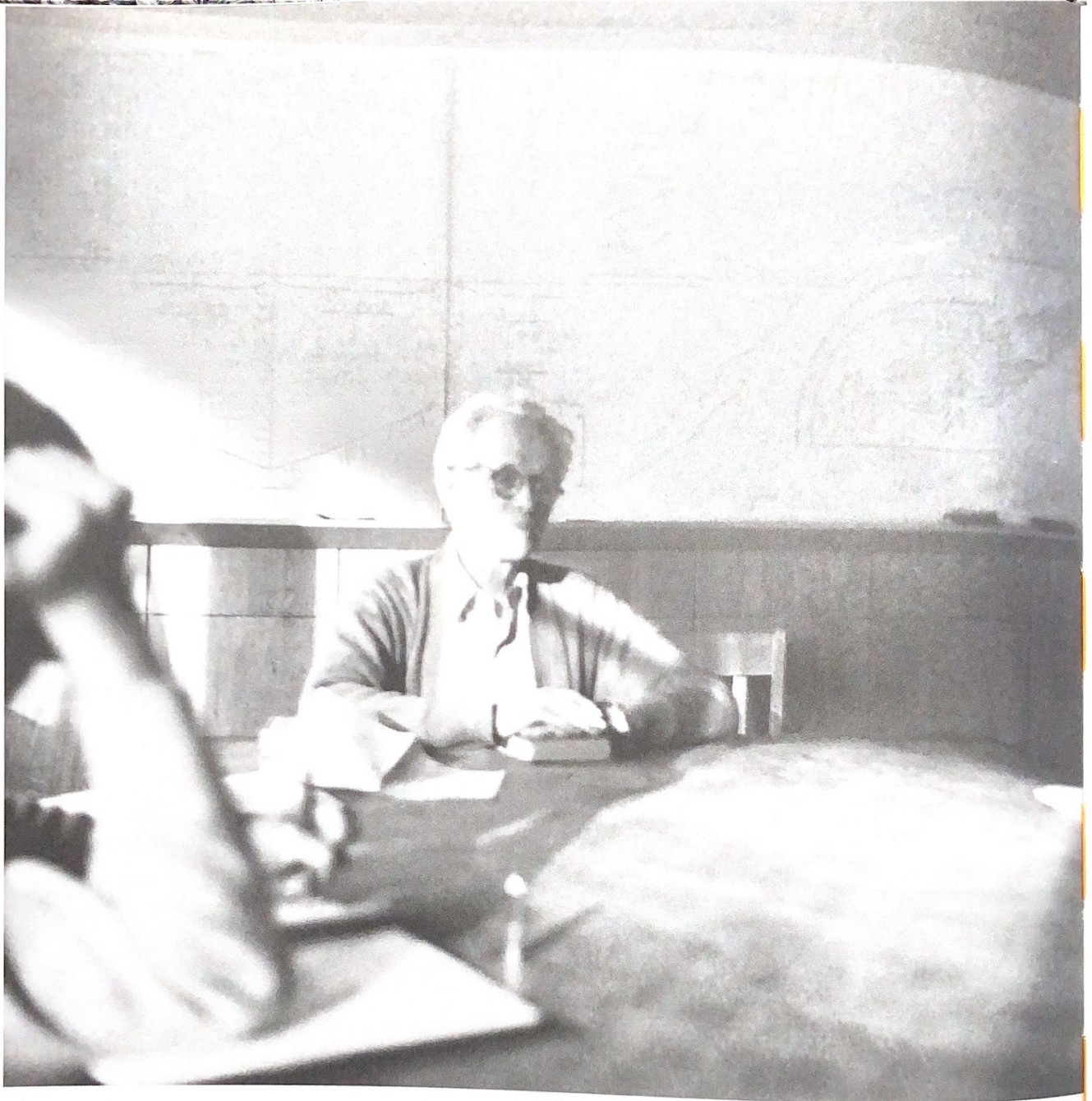
THE TRICKSTER

A STUDY IN
AMERICAN INDIAN
MYTHOLOGY

BY
PAUL RADIN

WITH COMMENTARIES BY C. G. JUNG
AND KARL KERENYI





Max Dehn, who had obtained his doctorate in 1900 at the University of Göttingen for his thesis entitled "Die Legendre'schen Sätze über die Winkelsumme im Dreieck" (proving the Saccheri-Legendre theorem), was an eminent authority on theoretical mathematics. In addition to his own subject, he also taught philosophy, the history of mathematics, Greek and Italian at Black Mountain College.³⁹ Like Buckminster Fuller, with whom he was friendly, he was an artistically minded figure in the extended sciences. His unconventional teaching style corresponded to this all-round flexibility. Back at the university in Frankfurt am Main, the co-founder of modern topology, who similarly ex-

celled in his work on the history and philosophy of mathematics, had also organized extended hikes through the Black Forest with his students. At Black Mountain, Dehn taught John Cage the principles of mycology as a type of survival skill⁴⁰ and introduced the young Dorothea Rockburne to an imagery that was based on modern geometry and astronomy. Rockburne, who claimed that she became an interdisciplinary person at Black Mountain College,⁴¹ is one example of the productive relationships that can be achieved by science and art thanks to the liberal and non-hierarchical methods practiced at the college. A related example is the case of Kenneth Snelson, who as a student in Buckminster Fuller's applied course not only discovered a crucial structural principle—multipolar *tensegrity*—for Fuller's geodesic dome but who as a sculptor was also influenced by his teacher's sculptural designs. Fuller, who appeared at Black Mountain for the first time in June 1948 in his Airstream trailer, which housed a mobile laboratory,⁴² was both a scholar and an artist and an exceptionally gifted science performer. Surviving film footage shows the particular nature of his delivery,⁴³ which differs in every respect from the delivery of academic lectures. Fuller, an opponent of Bauhaus, was above all a practitioner, an advocate of the experiment as a test of the sustainability of ideas. Following the failure of his first geodesic dome at Black Mountain College, his collaboration with students led to the discovery of the tensegrity principle and a solution to the problem of folding load-bearing structures. For Fuller, Black Mountain was the ideal breeding ground for his ideas about art, science, and teaching, all of which formed for him an inseparable unit as a type of future research.

This *interdisciplinary* type was, for the reasons mentioned here, always one of the basic demands placed by Black Mountain College on its teaching staff. The last representative of this type presented here is someone who has already been referred to several times: Charles Olson, a scholar, philosopher and poet. He was, in the words of his German translator Klaus Reichert a "Weltweiser" (a sage of the world),⁴⁴ who had studied literature at both Yale and Wesleyan. His research on Melville led to groundbreaking discoveries for literary criticism,⁴⁵ even though initially his work was not taken seriously. Literary scholars even attempted to block publication of Olson's brilliant book on Melville, *Call Me Ishmael* (1947), and following its publication it was simply ignored. The reason for this was that his study fell between literary criticism and poetry and was not classified as an academic work.⁴⁶ But, between the facts of empirical research and poetry was precisely where Olson was searching for his "reality prin-

▲
Max Dehn in the classroom, ca. 1947–1950
[Photo: Jerrold Levy]

39 See David Peifer, "Max Dehn: An Artist among Mathematicians and a Mathematician among Artists," *Black Mountain College Studies* 1 (Spring 2011), www.blackmountainstudiesjournal.org/wp/?page_id=39 (accessed March 10, 2015).

40 Discussion between Martin Duberman and John Cage, April 26, 1969, Black Mountain College Papers, Western Regional Archives, State Archives of North Carolina, Asheville, NC, 22.

41 Dorothea Rockburne in an interview with Connie Bostic in 2002, *Black Mountain College Studies* 1 (Spring 2011), www.blackmountainstudiesjournal.org (accessed March 10, 2015).

42 Fuller was proposed as a replacement for the architect Bertrand Goldberg by Fuller's occasional colleague, Leland Atwood. See Mary Emma Harris, *The Arts at Black Mountain College* (Cambridge, MA: MIT Press, 1987), 146.

43 See, for example, the 1996 documentary film by Karen Goodman and Kirk Simon, *Buckminster Fuller: Thinking Out Loud*.

44 Klaus Reichert, "First Facts," in Charles Olson, *Nennt mich Ismael: Ein Studie über Herman Melville* [1947] (Munich: Carl Hanser Verlag, 1979), 119–129.

45 Olson tracked down Melville's lost library and discovered the seven-volume annotated Shakespeare edition, which proved for the first time the extent to which Melville based *Moby-Dick* on Shakespeare's plays. See *ibid.*, 125.

46 See, for example, Ann Charters, *Olson/Melville: A Study in Affinity* (Berkeley: Oyez, 1968), 7–10.

ciple" as a new science. Among all the teachers at Black Mountain College, Olson conceptualized the most idiosyncratic means for creating a useful link between art and science. The self-objectifying subject that disappears as a soulless observer behind reality did not correspond to his idea of science, but rather the question about the basis (and the reason) for this analysis, which evolved from the tangible, unique being. In his essay "The Present is Prologue," Olson wrote: "[...] how to use oneself, and on what. That is my profession. I am an archaeologist of morning."⁴⁷

The adapted allusion in the title of the present essay to Antonin Artaud's *The Theater and Its Double*, published in 1938 by Gallimard in Paris, which called for a new type of acting on stage, breaking down the barriers between play and audience to achieve a "theater of the action,"⁴⁸ is based on the observation that the relationship between science and art at Black Mountain College tried to dissolve the boundaries in a similar way. However, it was not about a definitive objective of a radical manifesto but a movement that was driven by the uncompromising attitudes of individuals and by the constant "performativity" that they unleashed. The famous "Untitled Event" of 1952, the idea for which was partly inspired by Artaud's essay, was essentially a momentary amalgamation of this interdisciplinary investigation of states in which one, in Olson's words, "used oneself." According to the logic of this movement, art and science were united in anthropological art. Olson's lectures in March 1953⁴⁹ aimed in this regard at establishing an institute of human sciences: The Institute of the New Sciences of Man. The primary concerns of the institute were archaeology and cultural morphology. The geographical sciences and biosciences were assigned to archaeology, while psychology, mythology, anthropology and art were assigned to cultural morphology. Of course, as in the past, science played a key role for Olson: "Plus this last recognition: that the old exact sciences of nature & the universe—physics, mathematics, geometry—are still tremendous tools."⁵⁰

47 Charles Olson, "The Present is Prologue" [1952], in Olson 1997 (as note 22), 205–207 at 207.

48 Antonin Artaud, *The Theater and Its Double*, trans. M. C. Richards, (New York: Grove Press, 1958). The English translation prompted by John Cage and David Tudor, and produced by M. C. Richards, who taught at Black Mountain, was first published in *Origin*.

49 Charles Olson, "The Chiasma, or Lectures in the New Sciences of Man" [1953], complete version in Olson: *The Journal of the Charles Olson Archive* 10 (Fall 1978): 3–109.

50 Ibid., 3–4.

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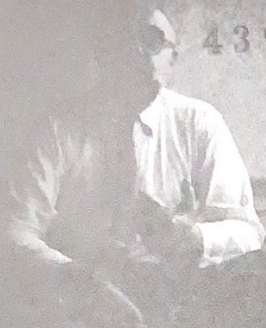
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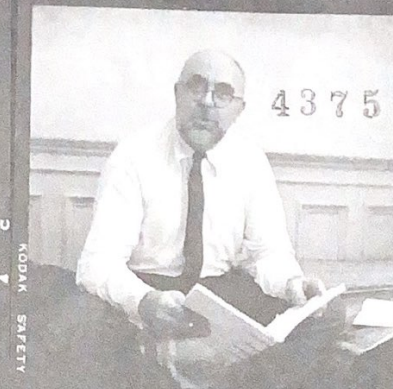
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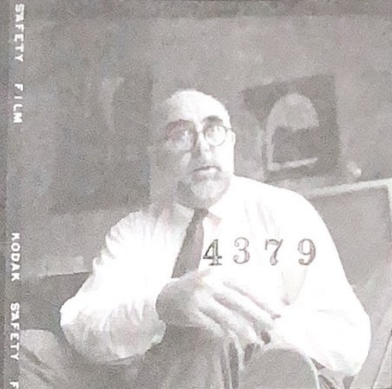
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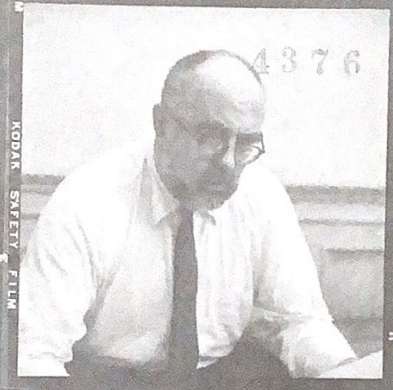
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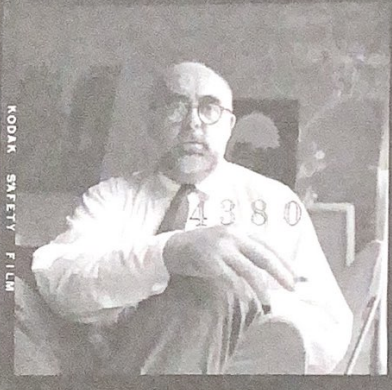
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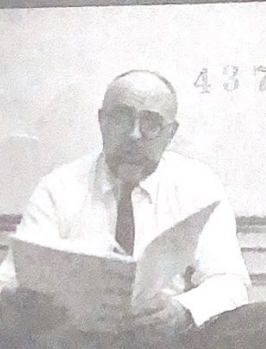
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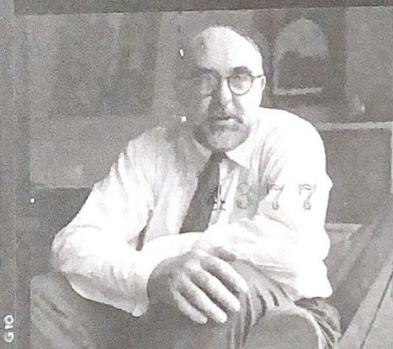
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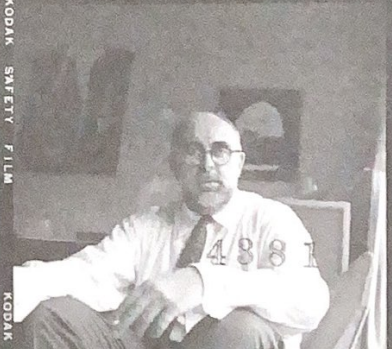
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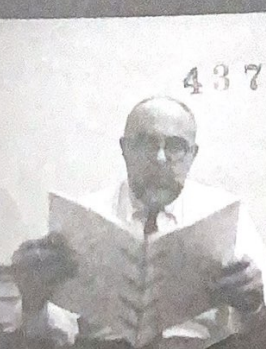
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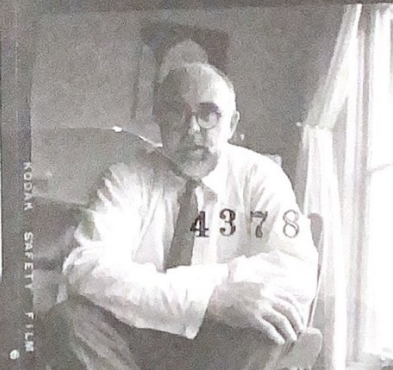
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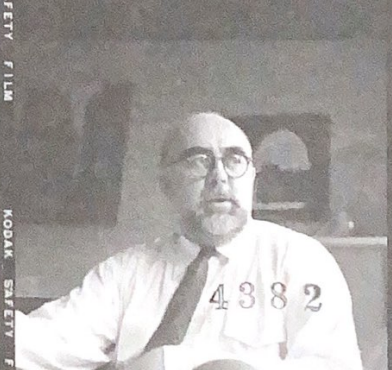
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