

# BILL IN BUFFALO

*James N. Wood, the Associate Director of Buffalo's Albright-Knox Art Gallery, has organized the first retrospective exhibition of the work of Max Bill, made possible through gifts from the National Endowment for the Arts, the New York State Council on the Arts, the Pro Helvetia Foundation and the Carborundum Company.*





To deal with Max Bill solely as a painter, sculptor, and graphic artist is to make a distinction which he has never made in his work: the distinction between Fine Art and the other areas of his activity. From the outset, his position, encouraged by his study at the Bauhaus and elaborated later in his own teaching and writing, has been to

see the creative intellect as having a central moral purpose regardless of what area of the arts it might be involved with. This purpose is to bridge the division between art and daily life. Bill has summarized it in the phrase, "shaping the environment." Any and every man-made object represents the solution to a problem. Bill believes that the

Opposite: *Construction From a Circular Ring*, gilt bronze, 1940-41. Below: *Construction, granite*, 1937. Frontispiece, page 23: The artist in his studio with sculpture, *The Solid Half of a Sphere*, aluminum, 1972, and oil, *Radiation Through Four Equal Quantities*, 1972-73.



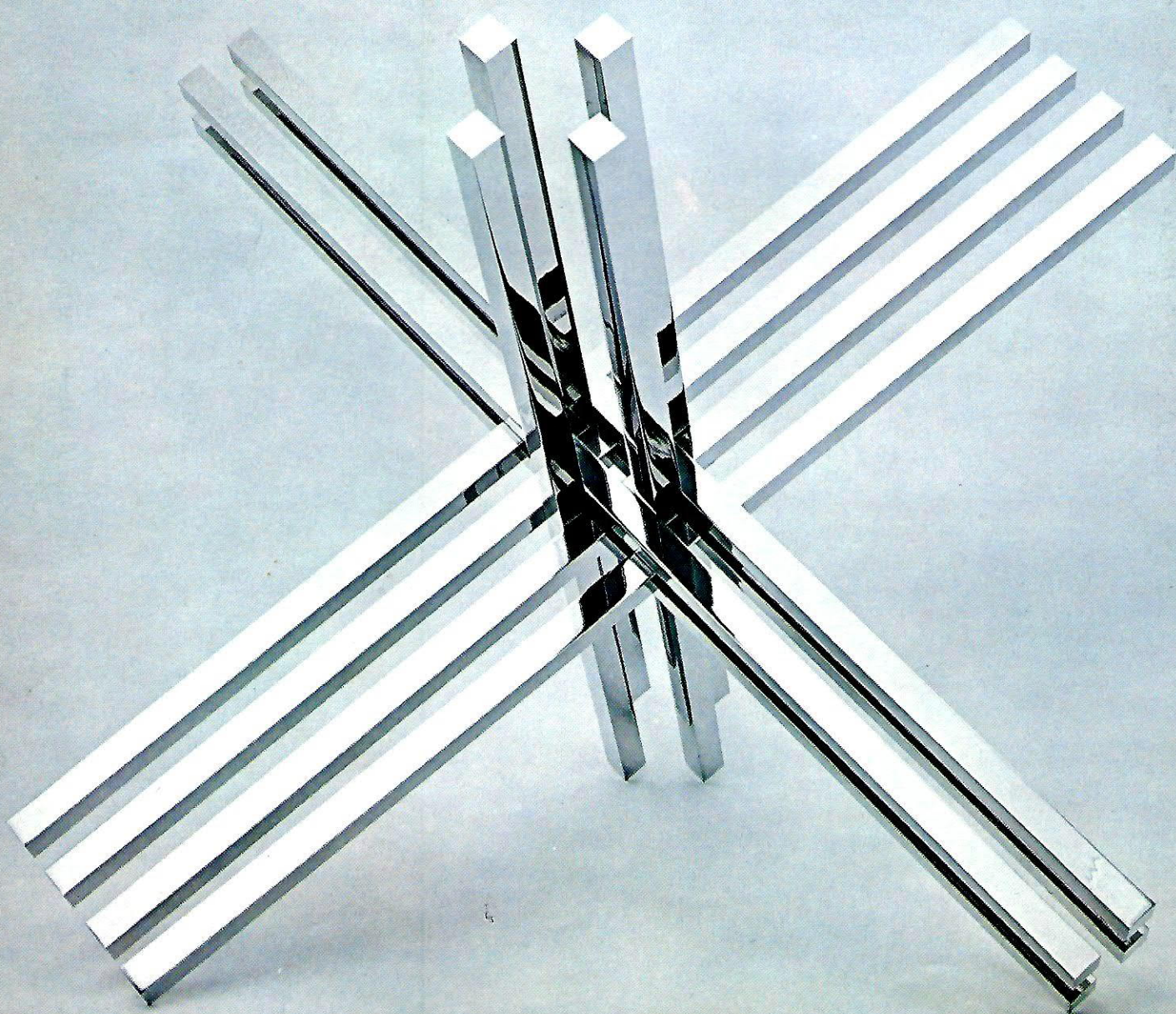


purely technical solutions which our culture equates with progress are not adequate to our spiritual needs. He insists that at a time when "moral and ethical measurements are no longer stable, or are no longer used as they were in older societies . . . somebody must take the responsibility for interpretation." Bill strives to make his solutions, be they for buildings, utilitarian objects, or works of Fine Art, as comprehensible as possible and to this end he brings a finely-honed analytical intellect and a life-long commitment to basing formal solutions on the study of human needs.

But human needs are infinitely complex and Bill insists that the attempt to meet them not be deflected by an appeal to universals. The design of a commercial product or a piece of architecture must take into account *a priori* functional and economic requirements of varying degree, while it is in the Fine Arts that creativity enjoys maximum freedom. This very

freedom, however, in no way lessens the social significance of the work produced. In his words: "Many people are shocked when they see something that is clear; . . . furthermore, it is wrong to assume that this clarity merely represents 'art for art's sake;' it is really a program in itself. Works of art enable certain problems to be solved without compromise, in a world which is full of compromises and failed speculations." The result is works of art with two primary intentions; first, as concretions of symbolic information for the pleasure and spiritual use of individuals and, second, as prototypes for a broader social use — for as Bill has repeatedly stressed, he is convinced that the Fine Arts are the primary formative influence on all design. These characteristics have separated Bill's work from the mainstream of post-war American art. His conscious effort to undertake all his activities within a social context, while having deep roots in the history of

*Nucleus from Groups of Four Elements Each*, nickel-plated aluminum, 1969.





twentieth century European art, is fundamentally foreign to the more individualistic tradition in the United States.

Max Bill was born in Winterthur, Switzerland, on December 22, 1908. Among his family, an uncle on his mother's side, who had first studied science and later became a serious painter in the circle of Cuno Amiet, stimulated his early interest in art. Winterthur provided an active cultural life, the museum mounting frequent exhibitions of contemporary European art, and at an early age, after first considering a career in geology, Bill decided to become a painter. The family agreed to this with the stipulation that he learn a trade to support himself. He entered the School of Applied Arts in Zurich in 1924 and stayed four years, apprenticing as a silversmith.

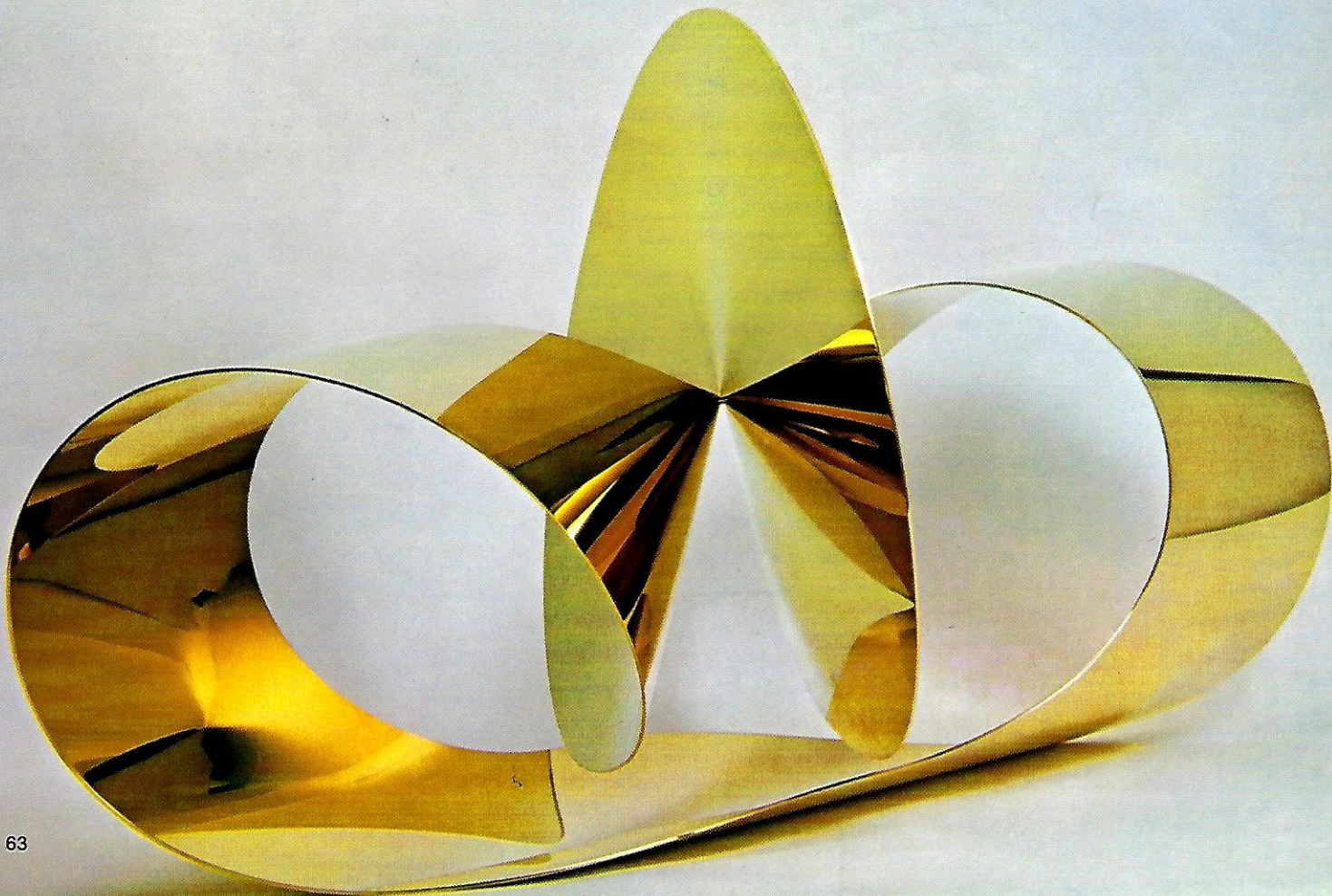
In 1925 Bill visited Paris and the Exposition Internationale d'Art Decoratif which proved a formative experience. "I can still visualize," he later recalled,

"what made such a strong impact on me at the age of sixteen: the Pavilion de l'Esprit Nouveau, with pictures and plans by Le Corbusier, and the Austrian Pavilion by Josef Hoffman, with Frederick Kiesler's section."

The following year Bill travelled the length of Italy in search of clues for his own development. On his return the Bauhaus handbook was brought to his attention and shortly thereafter Le Corbusier lectured at Zurich, impressing Bill with his concepts of the responsibility and breadth of involvement of the modern architect. Bill recalled later that: "My field of interests had widened. A friend of mine pointed out that my fondness of spheres, cylinders, and other stereometric forms had been anticipated in Germany, where a new style employing these forms had come into being."

The first Swiss citizen to enroll in the Dessau Bauhaus with its newly completed quarters by Gro-

*Contour Passes Through the Center*, gilt brass, 1972.





pius, Bill arrived well equipped to make the most of its extraordinary faculty. Art as such was never stressed at the Bauhaus, but Bill attended the informal classes of Klee and Kandinsky. As a student, sensitive to the growing need for functional solutions, but by nature skeptical of ideological arguments, this atmosphere encouraged his growing stress on personal conception as opposed to personal execution; for only through the former could one hope to create prototypes which might positively affect the broad level of design quality. He was evolving his own theory of equilibrium to prevent the isolation of the creative talent (himself) from an increasingly technical system of mass production. A means of achieving a clearly defined sense of order was now seen to be essential. He studied closely the geometrically inspired figurative art of Schlemmer, but the influence of Klee's inquiries into the control of movement on a painted surface — particularly through his schematic lecture diagrams — and his articulation of the laws of a systematic theory of form where logic and mystery miraculously managed to co-exist, were the primary Bauhaus elements in Bill's later development as an artist.

In the Fall of 1929, Bill left the Bauhaus and returned to Zurich. For a young architect and artist who came convinced that the answers needed to solve the problems confronting his generation would only be found through more and not less rationalism, it was not an auspicious date to embark upon a career. With the death of Stresemann that year, the Weimar Republic began to disintegrate and with it the brief interlude from 1924 to 1929 of monetary stabilization, relaxation of political tension and general prosperity.

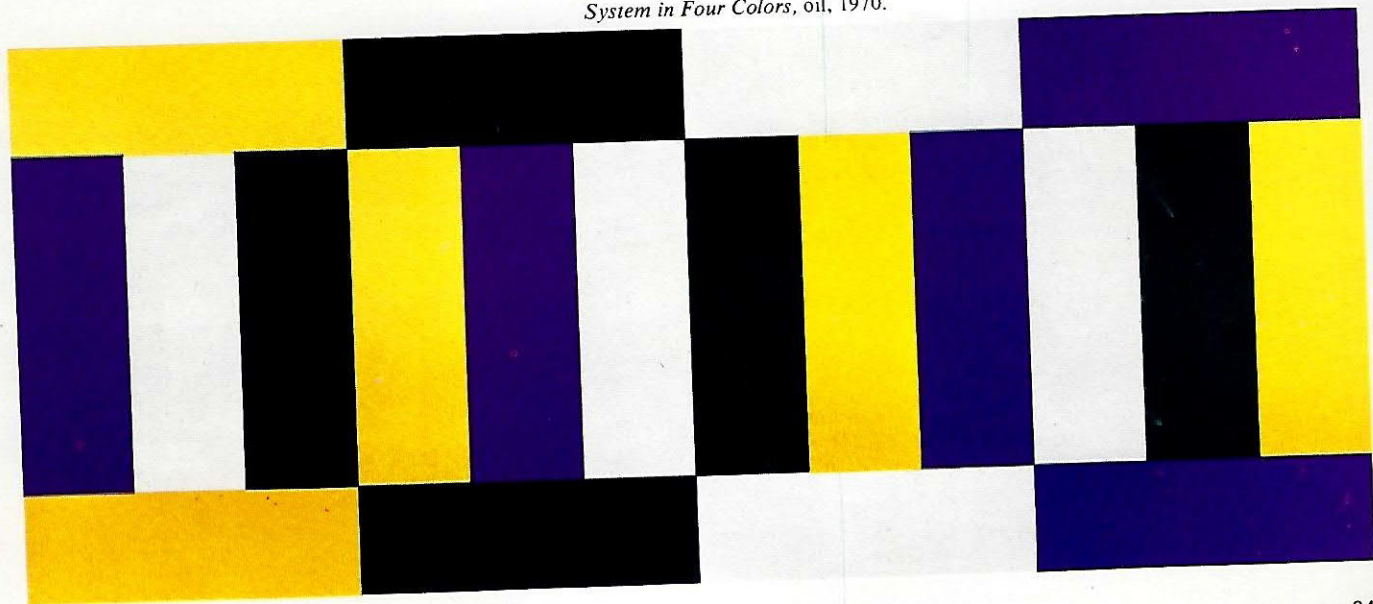
The Bauhaus was no exception to the fact that the culture of the Weimar Republic rested primarily on the accomplishments of outsiders to the accepted social structure who for a brief historical moment achieved a central position. However, unlike many

of the faculty and students who were soon to leave as exiles, Bill was returning home to Switzerland with its tradition of democracy and neutrality. While this hardly assured support for the innovations he now undertook, it reinforced his identity as, if not an insider, at least a citizen working for change within society. This unalienated stance is reaffirmed throughout Bill's career as an artist and in his activity as teacher, propagandist and politician.

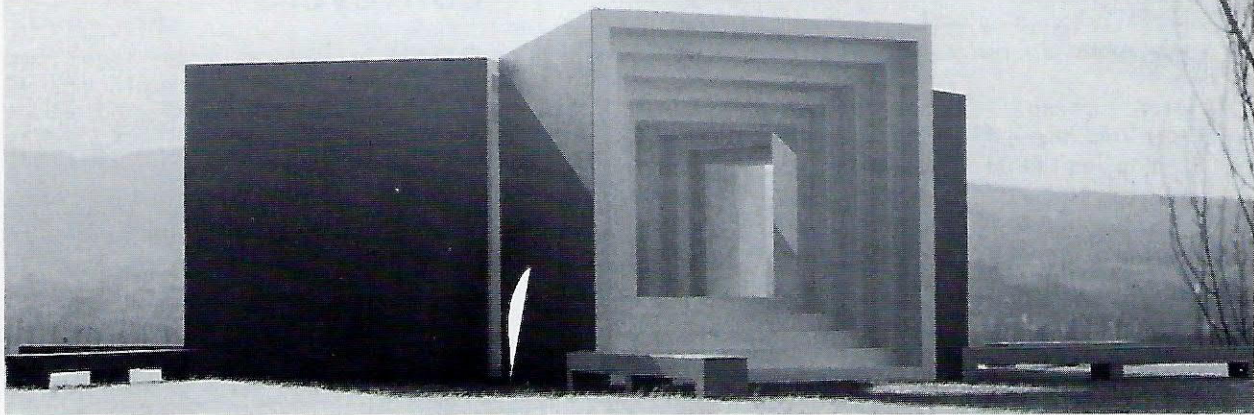
Switzerland provided a haven from the gathering storm, but one which Bill was to be constantly leaving in search of people and ideas. While living in Zurich from this time on, he remained in close touch with the shifting centers of European art. The following year, 1930, he was in Paris, to which he returned regularly, meeting Mondrian for the first time in 1932 and Vantongerloo in 1933. From 1932 until it dissolved in 1936 he was active in the group "Abstraction-Creation," participating in its yearbooks and Paris exhibitions. In addition to Mondrian and Vantongerloo, Hans Arp and Sophie Taeuber, Moholy-Nagy, Albers, Kandinsky, Pevsner, Herbin, and Kupka were among the diverse membership.

Bill thrived on the intellectual contact with these, primarily older, colleagues which Paris afforded, becoming particularly close to Vantongerloo who remained a life-long friend. The original pioneers of abstract art shared El Lissitzky's view that: "Our generation was born in the last decade of the 19th century and called to the colours of an era which marked a new beginning to the history of mankind." To the artists reaching maturity in the thirties a less utopian and more pragmatic view of history was essential. Not only had the great political and cultural experiment in Russia, which provided the context for El Lissitzky's statement, gone sour, but they had been born into "the non-objective world" which Malevich, Kandinsky and Mondrian's generation had discovered. It is Bill's response to this particular

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*System in Four Colors, oil, 1970.*





Competition Entry: *Monument to the Unknown Political Prisoner*, model, 1952.

historical moment of the modern movement, a moment demanding consolidation of the radical innovations of the pioneer generation and a sober rethinking of much of its theory, that distinguishes his art and thought from that of his contemporaries.

Of this period Bill recalls, "My generation could look at things another way,"—after the expressionistic innovations of the first decades of the century—"we needed a new organization and could learn from other fields of experience." In sculpture and painting it was Vantongerloo and Mondrian who provided the most influential lessons of the regulation of surface and space.

The other fields of experience in which Bill sought clues to a new organization have been varied, for as he explains, "Art is just as pluralistic a thing as our society itself . . . I can do my paintings and sculptures only if I constantly follow the course of political and economic events, and of scientific research and discovery, and only in close relation to practical experience. . . . I don't believe that I would be capable of developing as an artist, with any confidence or optimism, if I were not constantly dealing with reality."

Specific examples offering solutions which deal with problems relevant to Bill's own are music, engineering, and mathematics. Music had always held a central place in Klee's teaching, particularly in his more systematic works. Bill shared this interest, particularly in music's ability through variations and developments on a theme to produce great variety with strictly limited means and he read, soon after its publication in 1937, James Jean's *Science and Music* which explored and illustrated the shape of sound through harmonic motion and the sound-curve of various tones.

In engineering, the relationship between functional and aesthetic form is often a particularly close one, and nowhere is the expressive tension which this can produce more apparent than in the bridges of the Swiss engineer, Robert Maillart. This pioneer of ferro-concrete construction, by reducing the traditional supporting mass to a minimal structural system, freed the basic building unit (the reinforced flat or curved concrete slab) to be used as an element

of nearly pure plastic expression. Just as a Bill sculpture, a Maillart bridge imprints the presence of rational man on the landscape without the slightest note of intrusion. In fact, this respect for the environment, with its own imposing sense of scale and concern for the work's integration, rather than competition with it, appears to be a Swiss trait.

In 1949 Bill published the first monograph on Maillart's work stressing its aesthetic importance. In addition, Bill's own work bears a strong spiritual relationship to Maillart's conception of engineering where, because "it is very difficult to determine the forces present in slabs. . . by calculation alone, . . . the final forms were based partly on calculation and partly on experiment." These structures are prototypes of a humanized application of technology, and as totally functional works of sculpture, it is more than a pun to point out that Maillart's work bridges the gap between art and everyday life with almost unique success.

While Bill's formal study of mathematics has never gone beyond ordinary architectural calculations, his interest in exploring its relation and application to the arts has been continuous. In his 1949 essay on "The Mathematical Approach in Contemporary Art," he summarizes his working philosophy and the lessons of his own development and locates the importance of measurement and the determination of accurate relationships at the very threshold of cognition and rationality. By stressing this very fundamental level of mathematical organization, a shared characteristic of music and engineering, as well as the Fine Arts, Bill has been able to derive inspiration from modern science and technology without the fear of mimicking or competing with their physical forms. A result of this is that Bill has always been open about his debt to mathematics.

Jack Burnham has observed that at the very time artists became interested in scientific models, the models were losing their validity for mathematicians and physicists. "Yet many scientists concede that the decline of the physical model has been a loss for purposes of conceptualization — making it now more difficult to grasp problems through common sense perception." It is Bill's belief that art, through its



ability to create new symbols, can provide a new means of conceptualization, without which we run the growing danger of drifting out of touch with a rapidly changing reality.

From 1936 on, Paris steadily declined as a center of contemporary art. Bill's formulation of the principles of Concrete Art that year was not so much intended as a new "ism" to rally the dispersed proponents of abstract art, but as an elaboration of his own developing position and recognition of the need to provide it with a firm and positive theoretical foundation in the face of growing hostility. While Bill took the term and general principles from Van Doesburg's 1930 manifesto, *Art Concret*, which culminated the latter's attempt to systematize the means of artistic expression, he drew on and clarified a central strain of the modern movement.

In 1944 Bill organized the first international exhibition of *Concrete Art* in Basel and in 1960 a retrospective, *Concrete Art, Fifty Years of Development*, in Zurich. During 1944 and 1945, twelve issues of the revue, *Abstrakt-Konkret*, founded by Bill, and to which he contributed regularly, appeared in the bulletin of the gallery, Des Eaux-Vives, Zurich. Despite the hyphenated title, Concrete Art was defined in deliberate contrast to Abstract Art. During this period, Bill taught the introductory course on the theory of form at the School of Applied Arts in Zurich and this may have been one reason he now concentrated in his writings on clarifying the meaning of these terms. One has the impression that, aware of the vacuum the war had created in European culture, Bill was preparing the pedagogical tools that would soon be needed for the massive challenge of rebuilding which lay ahead.

"I am obliged over and over again," he wrote, "to explain why I call one direction in art 'abstract' and another 'concrete'. . . . The difference between abstract art and concrete art lies in this, that in abstract art the pictorial content is still tied to images from nature, whereas the pictorial content of concrete art emerges without the intermediary intervention of the latter. . . . Concrete Art renders visible abstract thought as such, by purely artistic means, and in so doing creates new objects. It is the goal of concrete art to create objects for spiritual use by analogy to the manner in which man creates objects for his material use." Concrete Art's significance for post-war painting and sculpture has not been felt as an exclusive movement, but as an inclusive, creative program cutting across a wide variety of personal styles. The common characteristic of its most able adherents is the attempt to re-introduce the intellectual rigor of the pioneer generation into a new cultural context. In this attempt, the originality of Bill's art stands out as a true prototype.

Turning to Bill's work, it is clear that theory followed invention. His instinctive search for forms which were neither arbitrary nor abstracted from nature had led by 1935 to the creation of the *Endless Ribbon*, his first single-sided sculpture, and the start of his suite of lithographs, *Fifteen Variations on*

*a Single Theme* (published in 1938). Together with the *Construction with Suspended Cube* of 1935-36 they stand within his development as a clear breakthrough to a fully realized, personal style. The *Variations* went much further than merely establishing the validity of serial development. They stressed integrity and applicability of concept rather than the dogma of one "correct" structural system, producing straight and curved, open and closed, colored and monochrome solutions. Furthermore, the geometric surface configuration of *Variation I* unleashed Bill's bold, personal sense of color, in a premonition of his later paintings. And both the *Variations*, and the *Endless Ribbon*, which as a theme was eventually to undergo a fascinating variety of transformations, led to an interest in topology.

A relatively young branch of geometry, topology is the study of those properties of an object which are the most permanent, the most capable of undergoing distortion without destroying their topological constants in terms of edges, faces, vertices, and connectedness. Topology had little to offer as far as actual forms. It should be remembered that Bill invented his original endless loop in response to problems posed by a specific commission and only later learned that he had reinterpreted the "moebius strip," one of the few aesthetically effective topological models. What it did offer, as a versatile mathematical concept of formal relativity and complexity within an underlying order, was content.

Just as the *Endless Ribbon* confronts us with the fact of finite infinity, all Bill's central themes challenge both perceptual assumptions and accepted notions of the forces regulating our environment. This is not, however, accomplished at the expense of the aesthetic quality of the object. To the contrary, the total interdependence of form and content, of object and idea, is one of the distinguishing characteristics of his work and central goals of Concrete Art in general.

Frequently, as in the theme of the half sphere, Bill has produced a number of distinct variations each with such compelling individuality that we find it hard to accept their common topological identity. Burnham has pointed out that by doing this, "Bill demonstrates both a topological truth and an artistic principle: there are no 'perfect forms', only the ability of the artist to reveal meaningful aspects of the same reality." However, where so much recent art which concerned itself with the new realities of science ended by rejecting painting and sculpture as viable means, in Bill's hands, such traditional qualities as the sensuality of logical form, pure color, and the innate beauty of fine materials have been accentuated.

Because of the central role given to mathematically deduced order in his work, some have attacked it as impersonal and lacking in originality—"cold, kitchen art" was one of the more memorable epithets. To the contrary, a Bill painting or sculpture stresses with exceptional clarity the personal decisions leading to its final state. His titles are factual



descriptions of a theme, while each individual work is one distinct and conscious choice from an infinity of possible variations. The original theme, the specific choice, the materials, color and scale of execution all are decisions made no less personal by the final geometric configuration. In a group installation, Bill's works instantly proclaim his conceptual authorship, their very lack of expressionistic handwriting an unmistakable signature.

The almost total absence of public monuments of quality in the twentieth century is a clear indication of the disappearance of widely shared symbolic concepts and imagery. This problem of investing a given theme with a viable contemporary form has been seen by Bill as a challenge modern art cannot afford to ignore. In 1953, his *Monument to the Unknown Political Prisoner* dealt with a quintessentially twentieth century subject—the anonymous, mass hero—where the very idea of a rhetorical statement would have been unfitting.

A trip to Ravenna the previous year, where he saw the fifth century Mausoleum of Galla Placidia, had impressed on him the fact that monuments need not be large to trigger profound emotions. The very humility of scale and intense focus on the momentarily "imprisoned" visitor, which his solution achieves, creates a microcosm with truly monumental implications. Bill's description of this project and its goal of achieving symbolic meaning through purely sculptural means provides an insight into a central motivation for all his work.

From the late thirties on, Bill's development has been continuous but not linear. Just as his work as a whole benefits from the feedback of problems and solutions in his other areas of activity, his painting and sculpture are constantly redefining earlier themes and adding new interpretations to a number of central problems which run like leitmotifs through his art. While Bill rejects formalist reductivism as a legitimate source of invention, he is extremely sensitive to the formal concerns of the separate media in which he works.

In sculpture he sees the central problem to be that of spatial expression. Beginning with the *Long Sculpture* of 1933, his first, free-standing piece, Bill has cut into solids to link interior and exterior space.

Similarly, one of Bill's most recent works, *The Solid Half of a Sphere* of 1972, repeats the same procedure, only now the resulting mass balances evenly in apparent contradiction to the visual illusion of an off-axis center of gravity. Here, as in his other pieces on the theme of the half-sphere, the solid form molds space with such authority that its conceptual twin, which would restore the original sphere, is sensed as an almost palpable presence. Invariably, however, Bill's formal solutions merge into symbols. In this particular case the profile of the division of the sphere is the same as that of the *yin-yang* unity of active and passive cosmic principles in dualistic Chinese philosophy.

The *Construction* of 1937 alternates from closed

to open form as we move around it, while its tremendous physical mass rests weightlessly on that invisible point where a sphere meets a flat plane. Questions central to the development of modern sculpture—the elimination of the base, the relation of fragment to whole, and three-hundred sixty degree frontality—are clearly resolved in this piece.

In painting, Bill sees the primary problem as that of expressing color and rhythm on a flat surface. His development led quickly to a rejection of relational composition and the demonstration that mathematical organization could be an effective means for freeing color. His compositional systems produce the initial impression of an overall, balanced gestalt; only later, with further observation, do we notice the specific organizing principle.

While the particular composition developed in a given work produces its individual rhythm, it also provides a vehicle for presenting color with little or no connotation of anything other than itself. What analogy there is in Bill's work tends toward music. Increasingly since the late forties, he has tightened and simplified the rules governing his compositions and simultaneously intensified his use of color. His choice of tone is wide and extremely personal; and while he frequently uses the primaries and secondaries in structural relationships, the hues are never those of the first generation's "absolutes." In fact Bill's color sense shares little with recent painting, and one must go back to the work of Hodler, Bocklin and, before them, Niklaus Manuel Deutsch to locate the tradition in which it falls.

George Kubler has pointed out that: "A signal trait of our time is an ambivalence in everything touching upon change. Our whole cultural tradition favors the values of permanence, yet the conditions of present existence require an acceptance of continual change." This pervasive sense of relativity is central to any contemporary definition of reality. Similarly, a central concern of Bill's art is to express in comprehensible terms this ambiguous, modern relationship between permanence and change. The solution which he has evolved is to produce concrete, often tactile, formulations of ambiguous concepts. Tangible ambiguity may at first appear to be a contradiction of terms, but in its resolution resides a precise mathematical poetry of which Bill is an undisputed master.

By accepting the "responsibility for interpretation" which he believes is the artist's, Max Bill has attempted to produce objects which both help define the world we live in and clarify our perceptions of it. His painting, sculpture and graphic work, all to varying degrees, represent a struggle to produce prototypes of clearly solved problems. His pictorial and sculptural style has a higher goal in his mind than style itself. The aesthetic quality of his work is there to see. The question of to what degree this quality is the result of the philosophical and social convictions underlying it, is one which, regardless of the answer, will be of central importance for the future. □





max bill

by james n. wood

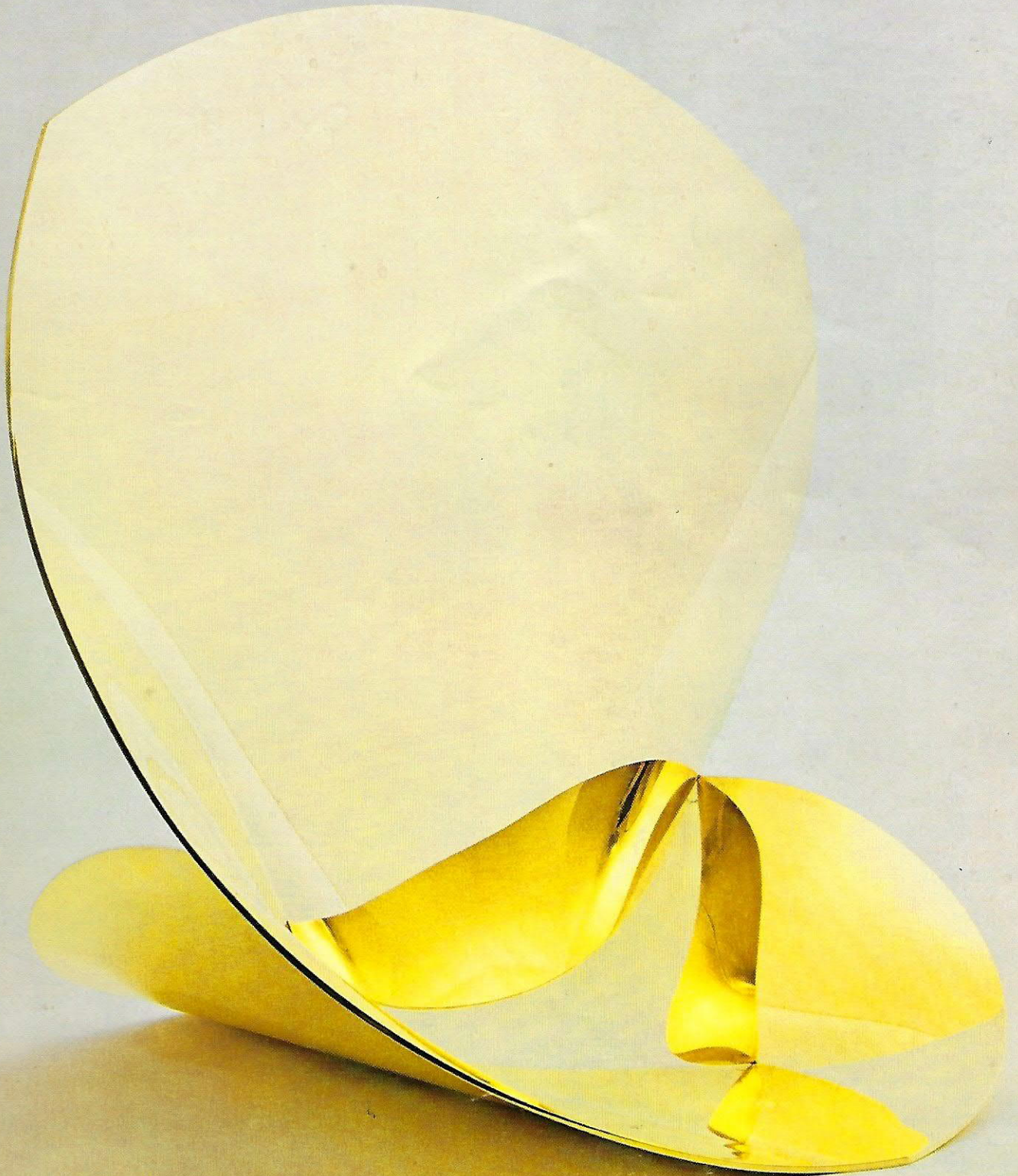


# the ARTgallery

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MAGAZINE

*ABSTRACT SCULPTURE: Calder in Chicago, Bill in Buffalo, Moore in Toronto*





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Sculptor Max Bill's *Hexagonal Surface with Complete Circumference* is a gilded brass work done in 1953 and is now in a private collection in Canada. (It is not, however, included in the retrospective reported by James N. Wood, beginning on page 23.)

#### Editor's Comments

The major portion of our first issue of the new season is devoted to exhibitions by three of the world's greatest sculptors. Henry Moore has for years been lionized on both sides of the Atlantic and his fame falls slightly short of canonization. Alexander Calder has been encouraged, promoted, and many feel, exploited, for years. His commissions for public places proliferate and even the skies of Latin America display his garish flying object. On the other hand, the brilliant Swiss sculptor, Max Bill, has received high acclaim in Europe but has been greatly neglected by the general public in the western hemisphere, even though he is represented in most major museum and private collections. Our advice is to go north this month — a visit to Chicago, Buffalo and Toronto will be most rewarding and though the Moore material will remain in Toronto, the Max Bill retrospective will be seen no where else except on the West Coast (After closing on November 17, the Exhibition will travel to Los Angeles and finish its tour at the San Francisco Museum of Art in March.) and the Calder retrospective will only be at Chicago's Museum of Contemporary Art.

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