of the rhythmic and timbral possibilities. These tend to be well-defined formally through density, choice of sound qualities, recognizable motifs and other elements; they are generally perceived as coherent and highly musical, even by those who are accustomed to listening to more hummable music. He makes extensive use of electronic delays to set up ostinatos that make the resulting repeating patterns seem natural, musical and varied.

BART HOPKIN
Experimental Musical Instruments
P.O. Box 784
Nicasio, CA 94946
U.S.A.

COMMENTS ON “A BETRAYAL OF MATERIAL: PROBLEMS OF CONSERVATION IN THE CONSTRUCTIVIST SCULPTURE OF NAUM GABO AND ANTOINE Pevsner”

In her article (Leonardo 21, No. 3, 285–290, 1988), Elizabeth Rankin discusses the unfortunate deterioration of Russian Constructivist sculpture. She cautions museums that “modern works of art as well as older artworks, may require careful conservation,” but in the United States, at least, I believe this effort is well underway—as the conservation departments at the Museum of Modern Art, the Metropolitan Museum of Art and other institutions will attest. Certain examples of modern art have been conservation problems virtually from their creation. From the early years of the century when Picasso and Braque pasted newsprint onto cardboard or canvas, to recent decades when Morris Louis stained Magna (acrylic resin) into cotton duck canvas, twentieth-century artworks have required the attention of conservation specialists. Rankin alludes to the difficulties caused by Cor-ten steel in recent sculpture. Cor-ten steel has caused damage to both sculpture and site to such an extent that certain commissioning panels for public sculpture have outlawed its use—the New Jersey State Council for the Arts is an example. Modern sculptures of sheet metal have rusted, nailed constructions have come apart, and paint has chipped off polychrome constructions.

Rankin’s discussion of the betrayal of materials in the works of Gabo and Pevsner can be joined with the unfortunate state of many examples of twentieth-century painting and sculpture. The focus of Rankin’s article, however, is the modification of the artists’ intentions because of the discoloration and deterioration of their works. It is true that transience has now replaced transparency in some of the yellowed constructions of Gabo and Pevsner, yet the principal goal remains intact: to make art that is a fitting expression of the technological age. I believe that the Russian Constructivists were aware of the experimental nature of the plastics they chose to use. These artists were committed to industrial materials and to the appearance of their sculpture in ‘space and time’; possible deterioration became a secondary concern. Gabo and Pevsner, like many of their contemporaries, were willing to work with untried materials to hail what they called “the blossoming of a new culture and a new civilization” (Realistic Manifesto, 1920).

JOAN MARTER
Department of Art History
Rutgers University
New Brunswick, New Jersey
U.S.A.

COMMENTS ON “CONCRETE ELEMENTS AND ABSTRACT THOUGHT”

Despite the emergence of the global village in which creative tendencies spread quickly and universally, there is still a temptation to ask about the self-identity of the artist, embedded in his/her regional or national background. Grzegorz Sztabinski’s background is not easily discernible but deserves to be pointed to (Leonardo 21, No. 2, 155–160, 1988). Sztabinski is the descendant of the a long-standing Polish tradition. He continues constructivist principles and follows Strzeminski’s activities; he is also heir to a rare and distinguished combination of art and philosophy carried on from L. Chwistek and S. I. Witkiewicz. Art and philosophy converge in the self-consciousness of the artist, producing an elegant, clear discourse. An organic interplay between the painterly oeuvre and the commentary stamped the achievements of Sztabinski’s predecessors. Anybody trying to place this Polish artist within the context of our day, from minimal art to conceptual art, should remember that Sztabinski’s fine self-elucidation is only partly borrowed from the contemporary scene abroad. His roots are to a great extent native. While meeting the external impulses that stirred the questions and answers in his creative equipment, he could introduce himself as the grandson of Strzeminski and Chwistek.

Sztabinski’s brilliant self-surgery seems to leave nothing to the outsider except to dwell on the sources and the function of the commentary. The process of increased theorizing, characteristic of the twentieth century avant-garde, made self-reflection an inclusive element of artistic efforts. This current was fueled by the meta-art started by J. Kosuth, M. Baldwin and T. Atkinson. Such commentary serves to anchor the given artist in the indefinite zone christened post-art, which nonetheless does not eliminate its ties with the aesthetic establishment.

Sztabinski deliberately selects from his work specimens that emphasize the manifest priority of logical operations, for which the tree serves as only one of many admissible repertoires, since he also employs triangles and squares. He intentionally enhances the weight of permutational procedures to make salient the relationship between the elements he uses. I would like to question some of his premises and conclusions. I do not deny the importance of his approach and the originality of his proceedings, which seek to confront basic philosophical notions with their sensually given material equivalents. I admire his results; however, I object to his concentration on the artistic process, which implies neglecting the structure of the work and its power of evocation. I believe Sztabinski is inattentive to some of his treasures and does not recognize the similarities between his attitude and the new fashionable cultural idioms. I find him, as a person, much more complex than the self-portrait executed by him.

Can we insist that what matters, the artist’s goal, is exclusively or even predominantly verbally preconceived? Yes, if the intention is satisfactorily embodied and it epitomizes the work.
In the case examined here, the beholder’s eye is quite often arrested by the harmonious wholes which Sztabinski considers to be only a by-product of the message, reduced to a definitive program. His game with ideas plays with form and colour. His philosophizing on the cleavage and permeability of theorems and icons is reduced to a self-sustained, autonomous world on the canvas. The ‘logical landscape’ becomes more the latter than the former. The self-commentary and the picture do not entirely meet. This is not the fault of the viewers’ aesthetic habits but is triggered by the artist’s weaponry and accomplishment.

Sztabinski mentions that his method of division is akin to deconstructivist procedures. This is a misleading signal inconsistent with what he exposes elsewhere. The comparison to hyperrealism does not hit the mark; this juxtaposition fails to do justice to the Polish artist’s assumptions and endeavors. Drawing on photography means different things; the same has to be said about Sztabinski’s use of division, which is dependant on a totally conceived strategy. Deconstructivism is based on permanent interpretation and re-reading of the text. Nothing is fixed; everything is open to the mushrooming of new meanings. In contradiction to this, Sztabinski would like to establish a univocal interpretation; he yearns for a single genuine sense. It is no accident that he confesses to the desire for an ‘absolute’ method. We could say that hyperrealism and deconstructivism are his antipodes rather than twins. If we restrict postmodernism to recent transformations bearing on the quicksands of meaning and value, Sztabinski would be acknowledged a paragon of an non-postmodernist artist. Irony, parody, patchwork, lucid expression, flirting with mass culture, approval of pluralistic codes are obviously alien to his vision of the world. Who is he then? I would suggest that he is pictor doctus searching for Logos, for the irrevocable foundations of the universe. Follow his calm, measured movements from one thought to another; his pace is of the detached observer, distancing himself from the omnivorous ‘I’. The mental games are transplanted onto the canvas to concretize the metaphysical or sublime character of the cosmos and the mind. His overwhelming seriousness linked with his demand for full control over the creative process places him in the role of god-like artifex. The main frame of reference is the painting and the human or extra-human realm. What is striking is the possibility of unexpected departures from the room. The author approves of these chance occurrences, which attest to the puzzle of being. This aspect of his work, as well as his use of symbols such as the cross to express the mysterious, were omitted from the self-commentary. Metaphysics suddenly appears at the threshold of the logical landscapes and is not refuted. Sztabinski’s artistic microcosm does not look as smooth and homogeneous as it was delineated under his pen. Mathematical reason criss-crosses with doxa ignorantia: a priori knowledge coalesces with black holes. There are fissures in the wall of the temple built by the artist dedicated to the Idea of Impeccable Order. The philosopher’s crystal-like speculations remain at odds with the artist’s maneuvers. Art and post-art strangely intermingle in his oeuvre. At stake is the priestly rule and the full command of the canvas. The unsolvable emerges, possibly as a conundrum of the rebellious elemental forces. Sztabinski is indeed an artist of our critical and dramatic period, flesh from its wounded body. That is why I partially undermine the quiet coolness of his otherwise splendid self-commentary and lay bare the existential anxieties of his oeuvre.

**COMMENTS ON “SYMMETRY AND THE ORGANIZATION OF FORM”**

A state of symmetry is, indeed, a state of equilibrium, of rest and, hence, of static. Systems tend toward equilibrium; the forces pulling toward equilibrium and the oscillations around the equilibrium state are what excite interest. A string or a column of air is interesting only when it vibrates, but the tone it emits is determined by its equilibrium configuration. Nearly symmetrical or slightly asymmetrical patterns are interesting precisely because there are perceptive forces that pull them toward equilibrium. Rudolf Arnheim (Leonardo 21, No. 3, 275–276, 1988) quotes plant physiologist Yu. A. Urmanits’s comments on the relativity of symmetry and asymmetry influencing scientific progress. When we perceive a pattern, we search for a structure that we can recognize and relate the pattern to that familiar structure. We are able to discern the similarities as well as the differences between the actual and the familiar structure, and the combination of these two gives both balance and tension to the observed pattern.

Symmetrical structures tend to be easily recognizable, and even though perfect symmetry is boring, slightly perturbed symmetry provides a balance and tension that pleases. One studies symmetry, accordingly, not as an aim in itself, but as a frame of reference.

Arnheim was told by Erwin Panofsky: “If you just do not sharpen your pencil too much, you can prove almost anything.” In this instance we can sharpen our pencil sufficiently to define what is meant by near-symmetry, and the deviation from symmetry. Figure 1 shows both a symmetrical and an anti-symmetrical function. The former is mirror-symmetrical, an invariant to a reflection in the vertical axis. The latter has rotational symmetry, for it is invariant to a rotation of 180 degrees around the origin. Mathematically these functions have the following characteristics:

for a symmetrical function \( s(x) \):

\[ s(x) = s(-x) \]

for an anti-symmetrical function \( a(x) \):

\[ a(x) = -a(-x) \]

Any function may be expressed as a sum, or superposition of a symmetrical and an antisymmetrical function, as shown in Fig. 2. In mathematical terms, for any properly behaved function \( f(x) \), there exists a pair of functions \( s(x) \) and \( a(x) \), one symmetrical, the other anti-symmetrical, so that \( f(x) = s(x) + a(x) \). The construction of Fig. 2 is expressed mathematically as follows:

\[ s(x) = \frac{1}{2} [f(x) + f(-x)] \] \hspace{1cm} (1s)

\[ a(x) = \frac{1}{2} [f(x) - f(-x)] \] \hspace{1cm} (1a)

This construction demonstrates that one can analyze any pattern in terms of a symmetrical and an anti-symmetrical component. If the anti-symmetrical component is