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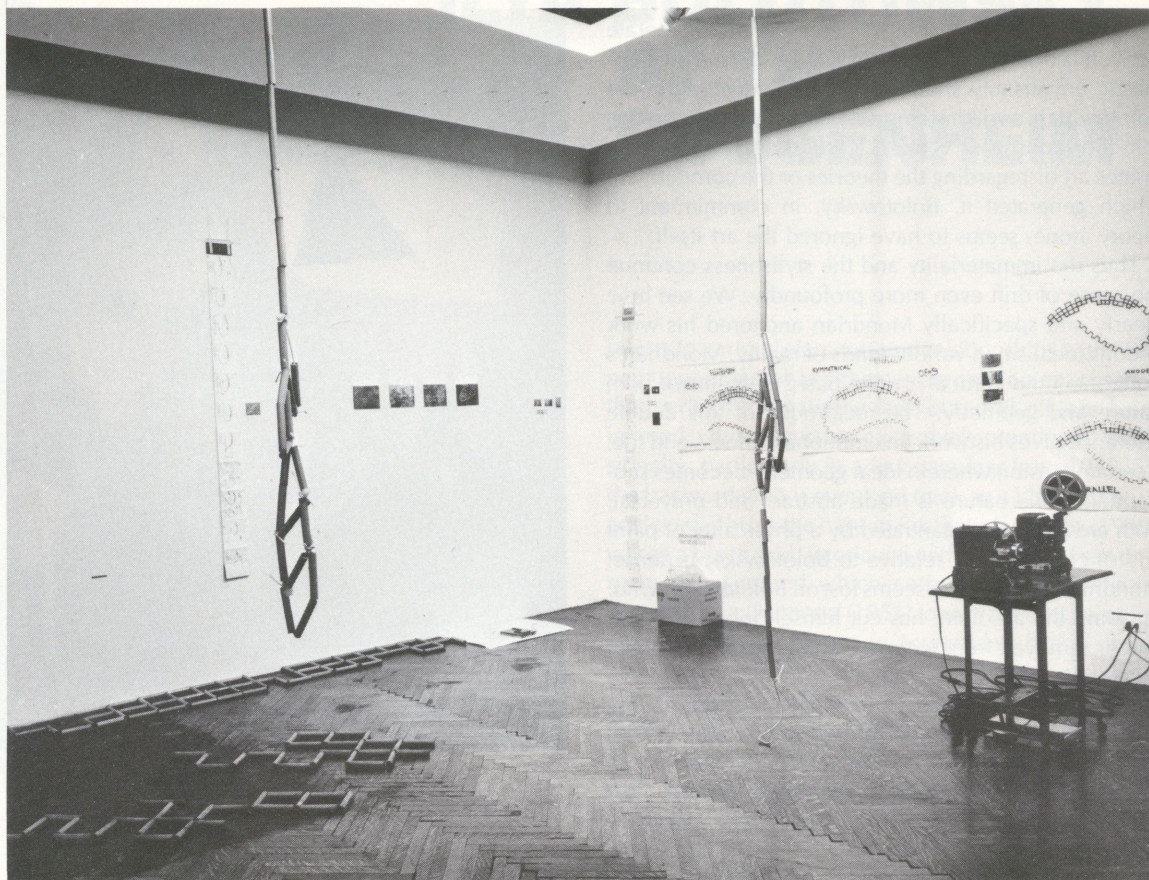
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No imagery satisfies me unless it is also knowledge.
—Antonin Artaud

In the past five years, Alan Sondheim has produced a large body of work, including records of experiments, performances, notational schemes, and several book-length essays, that is notable not only for its intellectual zeal and resourcefulness, but also for its breadth of conception. As with most artists, it is difficult to sum up what he is trying to do in simple terms: he has covered a lot of ground. Moreover, his interests seem to gravitate toward precisely those areas of experience that lie outside the grasp of analytical reduction, that defy coherent description. Though his work bears a more than passing resemblance to some Conceptual art, it would be unfair to approach it solely on that basis, inasmuch as it presumes and resides in a much more expansive frame of reference. Let us bypass, for the time being, questions of whether or not his work is even art.

A more appropriate place to begin is with Sondheim's notion of the *rich-field experiment* and a related distinction that he draws between "immersive" and "definable" situations. A definable situation, according to Sondheim, is one which can be broken down into distinct and relatively self-evident variables without misrepresenting the essential character of the situation and without relying overmuch on the intuitive faculties of the definer. Many mechanical devices, mathematical formalisms, unskilled jobs, and scientific experiments fall easily into this category. In contrast, an immersive situation resists such decomposition, possesses hidden and interlocked variables, and typically is one in which an intuition of the character of the situation is itself a major variable. Examples of this type might be an emotional depression, a religious experience, or a day-dream. Between these extremes are a vast number of partly immersive, partly definable situations; those that lend themselves to rich-field experimentation are generally definable from a position outside the situation, but immersive from within it.

Sondheim conducted one such rich-field experiment, 4320, dealing with the intuition of dimension and the manipulation of space, at Brown University in 1972 with the help of Charles Strauss. A computer with a cathode-ray tube interface was programmed to display a rotating projection of a hypercube, a four-dimensional figure, to two human subjects. One had some knowledge of the computer and of four-dimensional geometry, the other had no knowledge of either. Working as a team, they were told to turn the eight unmarked knobs on the control console so as to bring one of the planes of the hypercube parallel to the display screen and thereby foreshorten it into a normal cube; then, through a similar process, to reduce the cube to a square, and then to reduce the square to a point. To confirm their ability to "drive through space," as one of the subjects called it, they reconstructed the cube, rotated it into a full hypercube, and then drove it back down to a point. The 20-minute session was video-taped, with the camera aimed at the display screen, and the dialogue between the two unseen subjects was recorded on the sound



Alan Sondheim, Installation view, 1971.

BEYOND REDUCTIVISM

track as they learned to steer the figure through its various dimensional phases.

Sondheim performed a series of spoken-language experiments, with himself as the subject, later that same year. In the first of the series, Sondheim attempted to improvise two monologues simultaneously, alternating between them one word at a time. The results were recorded on audio tape:

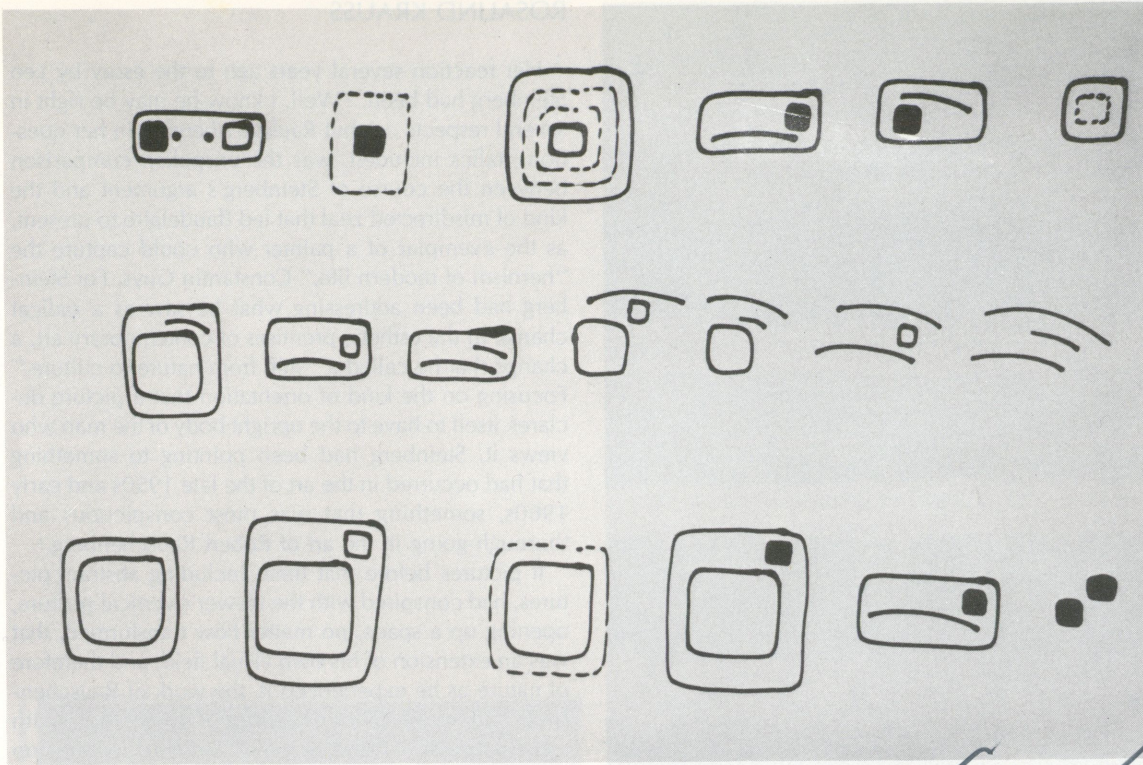
I I was am born about in to Kingston be Pennsylvania conducting in a the class year in nineteen the forty subject three of later contemporary I poetry became this interested will in contain contemporary the poetry development after of that sound I began led to work work later this . . . , etc.

A number of variations on this form followed: one track improvised, one track read, one track improvised in normal voice, one track in falsetto, and so forth. This led to attempts to improvise word matrices (sequences of words which, when later transcribed and arranged left-to-right, top-to-bottom, would produce complete sentences in each row and column), and subsequently to *Typed Glossolalia: A Computer Analysis of Determinism in Man*. *Typed Glossolalia* is one of the last and probably the most sophisticated of all the rich-field experiments. In three sessions lasting a total of over an hour, Sondheim typed "randomly" on the keyboard of an IBM card-punch machine, producing 330 cards which were fed into a computer for pattern analysis. The results, contained in a 19-page report, are given in the form of samples of the printout, tables of statistical

correlations and character distributions compiled by programmer Gregert Johnson, and a long interpretive essay by Sondheim, in which he concludes that "while there is no overall determinism. . . there is an immediate letter or word after-effect."

Several comments are in order at this point. These rich-field experiments, though done in a quasi-scientific spirit, are deliberately outside the framework of experimental science. They do not seek to confirm or disprove a hypothesis, nor do they usually produce quantifiable results. They are freely heuristic, serving to uncover areas for further investigation, but more importantly, *they are designed to provoke and record intuition, analysis, and problem-solving behavior in general, under circumstances where they cannot be easily applied*, both on the part of the subject within the experiment and the experimenter himself upon its completion. By their very nature, rich-field experiments tend to strain, and occasionally exceed, their participants' ability to reason their way through the situation to the desired goal. In further contrast to "hard" science, there is an obvious advantage in having the experimenter be his own subject, for in this manner he can gain access to the qualitative subtleties of the situation that might otherwise escape him. Sondheim's comments on the subjective sensations of randomness in *Typed Glossolalia* are a convincing proof of this.

One of the basic strategies in all Sondheim's work is to extend an analytical sensibility into situations which are hostile to analysis, thereby exposing its limits and points of failure. Through such lapses, one can catch a



Alan Sondheim, "Models of Being and Negation" from *A Logic of Consciousness and Being*, 1973, ink on paper, 2' x 3'.

THE WORK OF ALAN SONDHEIM

glimpse of the deeper, extramethodological processes that normally lie hidden but which inform all specific analytical constructs with utility and relevance. The accomplishment of a task, whether it be the manipulation of a four-dimensional figure, the speaking of two monologues simultaneously, or the construction of a multipurpose formalism (see below), is not the real issue. Rather, it is the examination of what occurs in the attempt. The setting of a problem is simply a means for luring the mind into exposing its inner workings, and the success of a project is moderately indifferent as to whether or not the problem is solved. In many cases, errors can be especially revealing and thus much of Sondheim's work, particularly the earlier work, can be said to be deliberately "error-seeking."

The rich-field experiments were recently superseded by another sort of inquiry which Sondheim had been engaged in intermittently since 1970.¹ In a way, the basic issues are the same: the ability of the mind to create and manipulate abstract structures, though by replacing physical situations with systems of symbolic notation, he was able to bring his "field-work" into a more immediate correspondence with his mental activity, and increase its degree of immersiveness as well. Since 1973, he has been developing *A Formalism Applicable to the Structure of Most Disciplines*. The formalism is based on two primitive entities, "containers," which have the capacity to store a finite number of unnamed units or "bits" and "gates," which permit the transfer of bits from one container to another. The movement of bits is regulated by the ticking of an "in-

ternal clock" so that at each tick, all permitted and required transfers of bits take place simultaneously. By connecting the containers and gates together diagrammatically, in chains, loops, and networks, Sondheim claims to have modeled certain features of "special relativity, network theory, propositional logic, permutation theory, finite group theory, statistics, brain-modeling (holistic or neural), phenomenology, Piagetian psychology," etc. Whether or not the formalism actually performs as claimed is properly a question for an expert from the appropriate specialty. For our purposes, and apparently for Sondheim's as well, the working-out of the formalism, the exploration of its descriptive capacity, constitutes its main value: it is "a notation that can wander." Over the course of its wandering, which fills more than 200 pages in several notebooks, one sees the formalism repeatedly overgrown with subscripts, superscripts, indices, and brackets, repeatedly condensed into new symbolisms, large areas of it elaborated and discarded to fit the needs of some immediate goal. The growth of the formalism is plainly organic, despite its mechano-cybernetic facade, and offers to the patient reader a dense ideoglyphy filled with novel and strange creations.

But before the formalism settled into a final form, Sondheim began to reflect on the behavior its development demanded of him: how he regulated its growth, how, when, and why symbols were introduced, how he maintained his orientation amid its branching complexity. This led to a second work, *A Logic of Consciousness and Being* (1973), which is much more ambitious in

scope and in many ways more perspicuous. The hand-written manuscript, some 80 pages long, also makes use of symbolic notation and deals with such operations as creation, annihilation, negation, conjunction, setting-aside, and recall. The notation is very graphic, though there is relatively less of it and more use of normal language instead. Examples and commentary drawn from Sondheim's immediate circumstances, including some passages that are quite personal, demonstrate the meanings of the various configurations of signs.

In fairness to anyone who might be drawn to look into these two works, it must be mentioned that their greater correspondence to Sondheim's mental activity, their greater immersiveness for him, has been paid for with a dramatic decrease in accessibility to anyone else, though this is less true of *A Logic of Consciousness and Being* than of the earlier formalism. Unlike the videotape of 4320, say, which is completely self-explanatory and very engaging to watch, they present severe problems to anyone unfamiliar with symbolic logic and modern mathematics, and even a mathematician would be put off by their wandering exposition. A third work in this progression, however, *A General Theory of Reality*, which Sondheim is still in the process of writing, incorporates many of the themes and insights of the previous two into a yet larger framework and at the same time presents them in a much more accessible form. *General Theory* starts from the premise that

the ordinary world of lived experience possesses three aspects: the phenomenological, the abstract, and the material. In many instances, the three aspects are interlocked, but they are somewhat independent and always mutually irreducible. The emphasis here is on description instead of explanation. Since the theory is not explanatory, and, for the most part, is not prescriptive, it does not contain procedures for verification. Instead it attempts to operate on a meta-level that allows the classification of existing explanatory theories.²

As to whether or not his work is art, Sondheim argues convincingly that it is. He speaks of art as "a discipline without a methodology," as "a desert where all disciplines may be stripped of their status in the world," as "the field of a cultural microscope [where] what is taken for granted elsewhere may be seen anew, where the familiar becomes strange." In speaking this way, he accepts the dissolution of traditional art forms as a positive state restoring to the artist the freedom to question all aspects of experience, to transcend the conventions of all professional specialties. This state, however, is one of profound alienation and not without psychological penalty. Particularly in his longer writings, Sondheim shows he is plagued by self-doubt ("his tools desert him, he is a man afloat"). He frequently expresses the fear that he is deluding himself, that his work is inadequate and futile. His need to test his own limits, to take risks and abuse his borrowed tools, sometimes tends toward the obsessive, but this merely underscores the seriousness of his commitment. What dominates in the end is a sense of the myriad subtleties of human consciousness and the vitality of his own analytical eclecticism. His work has an intensity and scope that is unmistakably modern. ■

1. See *Artforum*, April, 1971, p. 81, for Kenneth Baker's review of Sondheim's installation at the Bykert Gallery.
2. From a letter to the author.