

shape, material and layout of the room that man, who will in no way be identical with his old self, shall wish to live in. It is his subconscious intuitive awareness of these things that has driven every artist of recent times to produce works that have as their goal the definition of the elements composing them and the know-how to handle them in an autonomous way.

It is my contention that the fine arts and the sciences have advanced further in this respect than literature, which at most indulges in Dadaist gibberish and advances towards the 'Word', its only source of light, with extreme hesitancy.

The role of 'militant painting' as propaganda is something else again. In these days of the cinema and posters that can be shaped with the help of photography, the poster as we know it today will not help us achieve our aim. We deal with this problem, too, because it is very important, less from the point of view of the necessary path which the development of painting will take than from the point of view of *learning how to affect the masses psychologically*.

One thing is certain. If all of us who are fighting for the realization of a communist way of life would band together and concentrate all our energies on solving the problems facing us, instead of contending with each other, we would arrive at our goal that much sooner.

I sincerely hope to work together with A. E.; but let Sándor Barta not make the mistake of excluding some people from work because he either does not know or does not understand what they are doing.

No man can take upon himself the burden of responsibility and of battle. We too are at work, work that is no child's play.

'Az új tartalom és az új forma problémájáról'
Akasztott Ember, 1922. Nos. 3-4, p. 3.

Manifesto²

We are aware that Constructivism today is increasingly developing bourgeois traits. One of the manifestations of this is the Dutch Stijl group's constructive (mechanized) aestheticism as well as the technical Naturalism achieved by the Russian Constructivists (the Obmokhu group) with their constructions representing technical devices.

Every form of art that sees itself as hovering above the current social forms in aesthetic or cosmic perspective exists on a bourgeois level even if its adherents call themselves Constructivists. The same holds true for all forms of contemporary naturalism, whether its subject be the machine or nature herself.

For this reason, we make a distinction between the aestheticism of bourgeois Constructivists and the kind of constructive art that springs from our communist ideology. This latter, in its analyses of form, matter and structure, is breaking the ground for the collective architecture of the future, which will be the pivotal art form of communist society. As such it will not think of itself as either absolute or dogmatic, in that it *clearly sees the partial role it fulfils in the integrated process of social transformation at the present time*. It is raised above bourgeois Constructivism and against the bourgeois construction of life in today's society by that constructive content which is indicative of constructive potentialities, which can be fully realized only within the framework of communist society. In contrast, the bourgeois Constructivists provide only the haute bourgeois forms of today's capitalist society with the adequate and simplest artistic construction which can be realized in today's society.

This kind of reappraised (from a bourgeois point of view, destructive) Constructivism (to which only a tiny portion of those contemporary movements in art that are known by the name of Constructivism belong) leads, on the one hand, in practical life to a new constructive architecture* that can be realized only in a communist society, and, on the other hand, to a nonfunctional but dynamic (kinetic) constructive system of forces which organizes space by moving in it, the further potential of which is again in practice dynamic architecture. The road to both goals leads through interim solutions.

In order to bring about a communist society, we artists must fight alongside the proletariat, and must subordinate our individual interests to those of the proletariat. We think that this is possible only within the communist party, by working in co-operation with the proletariat. For this reason, we think that a *Proletkult organization* should be established, an organization

* City construction based on a unified plan with new materials selected to satisfy the collective needs of communist society (and not used hitherto in architecture), and with forms developed from the constructive potentialities of the new materials.

that would make such co-operation possible; that is why we join the *Egység*, since it was the one to begin work in this direction.*

The new *Proletkult* organization must turn against bourgeois culture (destructive work) and must look for a road leading to a new communist culture (the constructive aspect of the work); furthermore, it must liberate the proletariat from the pressure of bourgeois culture, and substitute for their bourgeois intellectuals' hunger for culture a wish for the most advanced organization of life. The artists of the *Proletkult* must pave the way for a high-standard (adequate) proletarian and collective art.

Ernö Kállai, Alfréd Kemény, László Moholy-Nagy, László Péri
'Nyilatkozat'

Egység, 1923. No. 4, p. 51.

MOHOLY-NAGY

KRISZTINA
PASSUTH

THAMES
+
HVDSON

1985

Production - Reproduction³ 1922

If we want to understand correctly the mode of human expression and shaping in art and in other related domains, and if we want to achieve progress therein, we have to examine the contributing factors: namely, man himself as well as the means he applies in his creative activity.

Man as construct is the synthesis of all his functional apparatuses, i. e. man will be most perfect in his own time if the functional apparatuses of which he is composed - his cells as well as the most sophisticated organs - are conscious and trained to the limit of their capacity.

Art actually performs such a training - and this is one of its most important tasks, since the whole complex of effects depends on the degree of perfection of the receptive organs - by trying to bring about the most far-reaching *new* contacts between the familiar and the as yet unknown optical, acoustical and other functional phenomena and by forcing the functional apparatuses to receive them. It is a specifically human characteristic that man's functional apparatuses can never be saturated; they crave ever new impressions following each new reception. This accounts for the permanent necessity for new experiments. *From this perspective, creative activities are useful only if they produce new, so far unknown relations*. In other words, in specific regard to creation, reproduction (reiteration of already existing relations) can be regarded for the most part as mere virtuosity.

Since it is primarily production (productive creation) that serves human construction, we must strive to turn the apparatuses (instruments) used so far only for reproductive purposes into ones that can be used for productive purposes as well. This calls for profound examination of the following questions:

What is this apparatus (instrument) good for?

What is the essence of its function?

Are we able, and if so to what end, to extend the apparatus's use so that it can serve production as well?

Let us apply these questions to some examples: the phonograph and photography - single pictures (stills) and film.

Phonograph. So far it has been the job of the phonograph to reproduce already existing acoustic phenomena. The tonal oscillations to be reproduced were incised on a wax plate by means of a needle and then retranslated into sound by means of a microphone (correctly: diaphragm, moving cone).

An extension of this apparatus for productive purposes could be achieved as follows: the grooves are incised by human agency into the wax plate, without any external mechanical means, which then produce sound effects which would signify - without new instruments and without an orchestra - a fundamental innovation in sound production (of new, hitherto unknown sounds and tonal relations) both in composition and in musical performance.

The primary condition for such work is laboratory experiments: precise examination of the kinds of grooves (as regards length, width, depth etc.) brought about by the different sounds; examination of the man-made grooves; and finally mechanical-technical experiments for perfecting the groove-manuscript score. (Or perhaps the mechanical reduction of large groove-script records.)

Photography. The photographic camera fixes light phenomena by means of a silver bromide plate positioned at the rear of the camera. So far we have utilized this function of the apparatus

* We take note of this joining. We do not agree with the over-evaluation of Constructivism, and shall return to this in the course of an essay in our next number. - Ed.

only at a secondary level: in order to fix (reproduce) single objects as they reflect or absorb light. In the event of revaluation taking place in this field, too, we will have to utilize the bromide plate's sensitivity to light to receive and record various light phenomena (parts of light displays) which *we ourselves* will have *formed* by means of mirror or lens devices.

Many experiments are needed here, too. Telescopic recordings of stars as well as radiography represent interesting preliminary stages.

Film. Kinetic relationships of projected light. This can be achieved by sequences of fixed partial movements. Cinematography as practised so far is limited mainly to the reproduction of dramatic action. There are certainly many important activities to be carried out in the domain of film. Some are scientific in nature (dynamism of various motions: of man, animal, city etc.; different observations: functional, chemical etc.; wireless projection of film news etc.); some involve the completion of reproduction itself from a constructive standpoint. But the main task is the formation of *motion as such*; naturally, this cannot be realized without a man-made play of forms as motion carrier.

Naïve experiments relative to such development were the trick-films (advertisements). Much more highly developed are the works of Ruttmann and the Clavilux* of Th. Wilfred; these, however, presented motion as an objectless dramatic action (abstraction or styling of erotic or natural events), albeit by trying to introduce the colour picture.

So far the most perfect works are those of Eggeling and Richter, in which instead of dramatic action there is already a play of forms, although to the detriment of kinetic formation. In fact, movement is not given formal purity, for over-emphasis upon the forms' development absorbs almost all the kinetic forces. The way ahead here will be the formation of motion without the support of any direct formal development.

'Produktion-Reproduktion'
De Stijl, 1922. No. 7, pp. 97-101.

Dynamic-Constructive System of Forces

Vital constructivity is the embodiment of life and the principle of all human and cosmic development.

Translated into art, *today* this means the activation of space by means of dynamic-constructive systems of forces, that is, construction of forces within one another that are actually at tension in physical space and their construction within space, also active as force (tensions).

Constructivity as an organizing principle of human efforts has led the arts in recent times from technology to the sort of static form-invested procedure which has been reduced either to technical naturalism or to an over-simplification of form limited to the horizontal, the vertical and the diagonal. The best instance was an open, eccentric (centrifugal) construction which indicated the tensions of forms and of space, without, however, resolving them.

We must therefore replace the *static* principle of *classical art* with the *dynamic principle of universal life*. Stated practically: instead of static *material* construction (material and form relations), dynamic construction (vital construction and *force relations*) must be evolved in which the material is employed only as *the carrier of forces*.

Carrying further the unit of construction, a DYNAMIC-CONSTRUCTIVE SYSTEM OF FORCES is attained whereby man, hitherto merely receptive in his observation of works of art, experiences a heightening of his own faculties, and becomes himself an active partner with the forces unfolding themselves.

There is a close correlation between the problems of this system of forces and the problem of freely floating sculpture as well as of film as projected spatial motion. The first projects looking towards the dynamic-constructive system of forces can be only experimental demonstration devices for testing the connections between man, material forces and space. Next comes the use of the experimental results for the creation of freely moving (free from mechanical and technical movement) works of art.

L. Moholy-Nagy, Alfréd Kemény
'Dynamisch-konstruktives Kraftsystem'
Der Sturm, Berlin, 1922. No. 12.

* The name indicates a kind of colour organ, although we are concerned with light projection on the plane and not in space.

New Form in Music. Potentialities of the Phonograph

1923

Among present-day musical experiments, an important role is played by researches conducted with amplifiers which open up new paths in the production of acoustic phenomena. The aims of the Italian Bruitists, in constructing new instruments with new sound-formations, have been substantially fulfilled by experiments with the amplification tube as a specific instrument which permits the production of all sorts of acoustic phenomena. However, this alone does not exhaust the potentialities that might be expected as regards the transformation of music. I refer to the excellent paper by P. Mondrian, 'New form in music and the Italian Bruitists' (De Stijl), where the basic principles of innovation in creation with sound are analysed.

Mondrian says among other things, 'Music cannot develop through enrichment in terms of sounds or through refinement, but through the abolition of the duality of the individual and the universal, the natural and the spiritual; in other words, the achievement of human equilibrium is the aim of all creation.' And he goes on: 'Noises in nature result from simultaneous and continual fusion. By having partly destroyed this fusion and continuum, the music of the past has derived from this noise certain sounds which it has arranged in a certain harmony. In order to achieve a more universal mode of creation, the new music will have to attempt a new order of sounds and non-sounds (certain noises). The main point is to deliver ourselves through creation from the "natural", from the "animal", the characteristics of which are fusion and repetition. If the fusion and hereby the predominance of the individual is to be avoided, instruments will have to form the sort of sounds in which both wavelength and frequency must remain as even as possible. Therefore instruments must be constructed in such a way that every after-oscillation can immediately be interrupted. This kind of creation is inconceivable without a different technique and different instruments.'

If they are to be realized at all *externally* by technical inventions, these postulates will actually be met through employing the amplification tube.

My ambitions in the same field of experimental transformation in music are of another kind, though closely connected with the thinking of Mondrian. In what follows I shall pass over the motives for new sound-creation and shall present just one suggested means for its possible realization with the help of a new means of expression.

I have already suggested that the phonograph be transformed from an instrument of reproduction into one of production; this will cause the sound phenomenon itself to be created on the record, which carried no prior acoustic message, by the incision of groove-script lines as required.

Since my description of this process served elsewhere as an example to illustrate another idea, I was very brief in specifying the potentialities, without presenting detailed arguments, for the transformation of our musical conceptions along these lines. In speculative terms, the following is clear:

- 1 By establishing a groove-script alphabet an overall instrument is created which supersedes all instruments used so far.
- 2 Graphic symbols will permit the establishing of a new graphic and mechanical scale,* that is, the creation of a new mechanical harmony, whereby the individual graphic symbols will be examined and their relations formulated within a rule. (We may allude here to an idea that sounds rather utopian as yet; namely, the transposing of graphic designs into music on the basis of strict regularities of relationships.)
- 3 The composer would be able to create his composition for immediate reproduction on the disc itself, thus he will not be dependent on the absolute knowledge of the interpretative artist. So far, the latter was in most cases able to smuggle his own spiritual experience into the composition written in note form. The new potentialities afforded by the phonograph will re-establish the amateurish musical education of our day on a more wholesome basis. Instead of the numerous 'reproductive talents', who have actually nothing to do with *real* sound-creation (in either an active or a passive sense), the people will be educated to the *real* reception or creation of music.
- 4 The introduction of this system in musical performances will also facilitate to a significant degree independence from large orchestral enterprises, and the large-scale distribution of original creations by means of a simple instrument.

* Our present scale is approximately one thousand years old, and it is not absolutely necessary to be bound by its inadequacies today.

(The efficiency of the phonograph has been substantially improved lately by certain technical innovations. Among others, there are two important inventions in this field. One is electrical operation, the other a newly invented diaphragm which ensures almost completely friction-free reproduction of recorded compositions. I think that if we regard these as a necessary condition, then we shall have technically perfect apparatuses within the shortest time.)

I consider that the following practical experiments with the phonograph in the realm of musical composition should be initiated:

1 Since the grooves on the mechanically produced record are microscopic in size, we shall first have to devise a method for reducing by technological means down to the normal size of a present-day record any large-scale groove-script record that can conveniently be worked on by hand. It would be desirable to make a photograph of a present-day (reproductive) record and to make a photo-cliché or photo-engraving of the photograph by a zincographical or galvanoplastical process. Should such a record prove to be just more or less playable, the basis for subsequent work along these lines will be established.

2 Study of the graphic symbols of the most different (simultaneous and isolated) acoustical phenomena. Use of projectors. Film. (Specialist works on physics already include detailed descriptions thereof.)

3 Examination of mechanical, metallic and mineral sounds. From these, attempts to devise – for the time being, in a graphic way – a special language. Special attention to be paid to symbols created by different tonalities.

4 Graphic production of the largest contrasting relations. (Before beginning experiments on the wax plate, it is suggested that one trace with a needle the graphic wave lines of music on a [reproductive] phonograph disc; these lines will become well known to the experimenter who will acquire therefrom a sense for graphic representation.)

5 Finally, there are improvisations on the wax plate to be considered, the phonetic results of which are theoretically unforeseeable, but which may permit us to expect significant incentives since the instrument is rather unknown to us.

*'Neue Gestaltung in der Musik.
Möglichkeiten des Grammophons.'*
Der Sturm, Berlin. July 1923, No. 14.

Light – A Medium of Plastic Expression*

Since the discovery of photography virtually nothing new has been found as far as the principles and technique of the process are concerned. All innovations are based on the esthetic representative conceptions existing in Daguerre's time (about 1830), although these conceptions, i. e., the copying of nature by means of the photographic camera and the mechanical reproduction of perspective, have been rendered obsolete by the work of modern artists.

Despite the obvious fact that the sensitivity to light of a chemically prepared surface (of glass, metal, paper, etc.) was the most important element in the photographic process, i. e., containing its own laws, the sensitized surface was always subjected to the demands of a camera obscura adjusted to the traditional laws of perspective while the full possibilities of this combination were never sufficiently tested.

The proper utilization of the plate itself would have brought to light phenomena imperceptible to the human eye and made visible only by means of the photographic apparatus, thus perfecting the eye by means of photography. True, this principle has already been applied in certain scientific experiments, as in the study of motion (walking, leaping, galloping) and zoological and mineral forms, but these have always been isolated efforts whose results could not be compared or related.

It must be noted here that our intellectual experience complements spatially and formally the optical phenomena perceived by the eye and renders them into a comprehensible whole, whereas the photographic apparatus reproduces the purely optical picture (distortion, bad drawing, foreshortening).

One way of exploring this field is to investigate and apply various chemical mixtures which produce light effects imperceptible to the eye (such as electro-magnetic rays, X-rays).

Another way is by the construction of new apparatus, first by the use of the camera obscura; second by the elimination of perspective. In the first case, using apparatus with lenses and mirror-arrangements which can cover their environment from all sides; in the second case, using

an apparatus which is based on new optical laws. This last leads to the possibility of 'light-composition,' whereby light would be controlled as a new plastic medium, just as color in painting and tone in music.

This signifies a perfectly new medium of expression whose novelty offers an undreamed of scope. The possibilities of this medium of composition become greater as we proceed from static representation to the motion pictures of the cinematograph.

I have made a few primitive attempts in this direction, whose initial results, however, point to the most positive discoveries (and as soon as these attempts can be tested experimentally in a laboratory especially devised for the purpose, the results are certain to be far more impressive).

Instead of having a plate which is sensitive to light react mechanically to its environment through the reflection or absorption of light, I have attempted to control its action by means of lenses and mirrors, by light passed through fluids like water, oil, acids, crystal, metal, glass, tissue, etc. This means that the filtered, reflected or refracted light is directed upon a screen and then photographed. Or again, the light-effect can be thrown directly on the sensitive plate itself, instead of upon a screen. (Photography without apparatus.) Since these light effects almost always show themselves in motion, it is clear that the process reaches its highest development in the film.

Broom, IV, No. 4 (1923)

Contemporary Typography – Aims, Practice, Criticism

Typography is modern if its means are employed according to its own laws and if it is in a constant state of resonance with the surrounding life, i. e. in a continuous state of relaxation and of tension.

In recent years, several aspects of human behaviour and creativity have been clarified for the long run. The effects of theoretic-emotional recognitions can be observed everywhere. In fact, their development often follows so quickly – at least in a speculative way – that we would like to realize the already recognizable future forms of appearance at once, without the inevitable intermediate stages.

In this context there is a certain observable perspective in the development of our means of communication and the entire news service, leading to a substantial reduction in the role of typographical communication in the form of books, posters, newspapers, etc. The diffusion of the film, phonograph and radio has led to a major turning-point. It is not utopian to say that film and record collections will often replace the libraries of today. The improvement of phonograph techniques and the amplification tube as well as the development of a mechanical language phonetically best suited to such instruments, will probably result in future authors publishing their works not in an optical-typographical but in a phonetic-mechanical way (gramophone records, perforated tapes for the amplification tube, radio) or possibly by optophonetical techniques (sound film). This is not the place to specify the various possibilities of applying these methods to current printed materials – handbills, catalogues etc. Newspapers are already partly replaced by the radio. Musical enterprises already protest against competition from broadcasting companies, and it is quite possible that printing houses will do the same tomorrow. However, it is more logical and useful to try to raise typography to an as yet unattained level of expressive power and optimum productive capacity.

Every doubt about the justification of a field of creativity must lead to examination of its constituent elements.

It is the utilization of potentialities offered by the machine that is characteristic of and, in terms of evolution, authoritative for the techniques of our present-day works. Thus, printed matter today will have to correspond to the most modern machines; that is, it must be based on *clarity*, *conciseness* and *precision*. The development from manual to machine type-setting was lengthy and full of complications; and the final unambiguous introduction of machine type-setting will lead to yet more acute tensions. The future form of typographical communication will largely depend on the development of mechanical methods.* On the other hand, the development of typographical machines will also be determined in many respects by new attitudes to typography still to be adopted for the most part by hand-setting.

* Here we must not think first of the speed of the printing process. Industry also requires time for producing models. In the same way, the typographic work to be produced in thousands of copies will require profound study – that is, time.