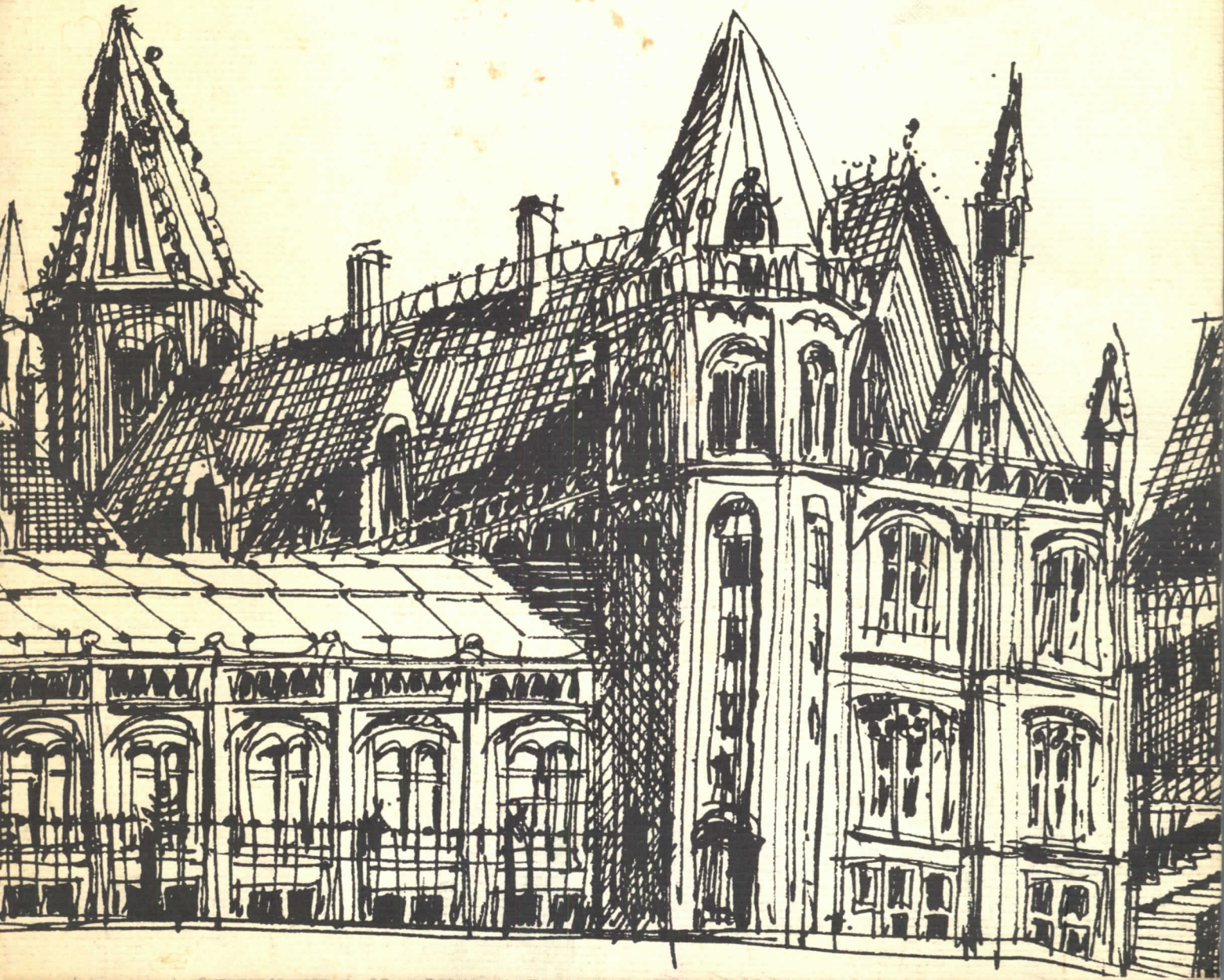
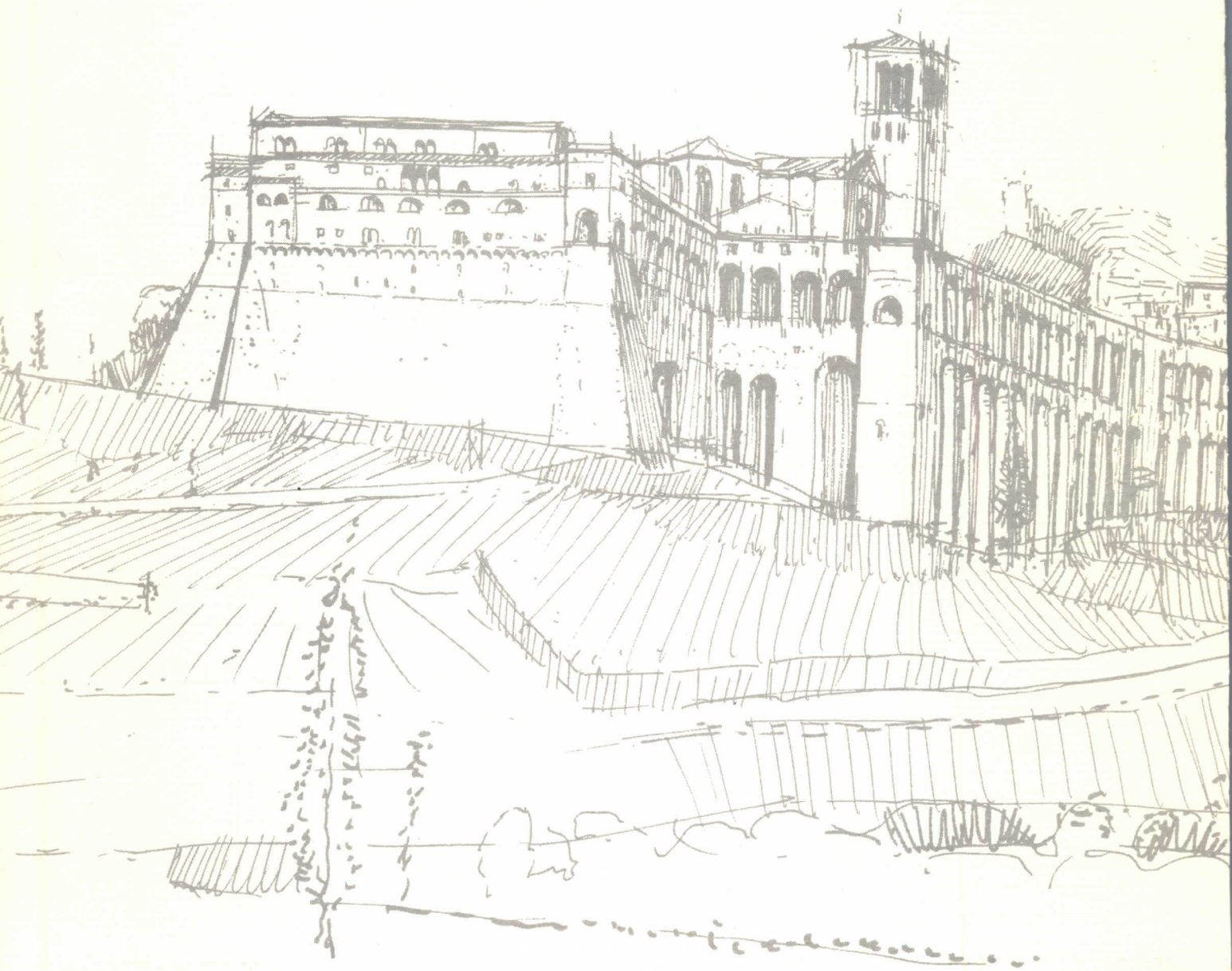


# THE STUDENT PUBLICATION OF THE SCHOOL OF DESIGN

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The drawings in this issue are the work of EDWIN F. HARRIS, Winner of the  
1958 Lloyd Warren Fellowship (The Paris Prize) and 1957 graduate of the  
School of Design, North Carolina State College.

**STUDENT PUBLICATION OF THE SCHOOL OF DESIGN**

## Editorial

*Firmly believing that a satisfactory solution to a problem can only be brought about by an orderly and well defined process, we present the feelings and considerations of various people as they investigate this thought.*

*Without order imparted by reason, experience is confused, bewildering, and formless. The degree to which man has been successful in transforming his multitudinous experience into something arresting is best displayed in the accumulation of existing buildings. The inherent quality, or the lack of it, therein displayed is the most revealing index of the state of a culture, for as JOSEPH HUDNUT indicates, "in buildings is vested the ancient role of interpreters of the human spirit."*

*A fluent architecture is both objective and subjective; nevertheless, the analysis of the problem and the synthesis of the solution can be based principally upon the kind of clear and concise rationale espoused by CHARLES PEIRCE. By these rational means fundamental problems can be solved in a direct, simple, and purposeful manner.*

*Rationalism, however, with all its virtues, somehow does not have the depth to penetrate the realm of the senses and is dependent upon the intuitive aspects of man's nature; together, they clarify and intensify his experience. Similarly, it is DR. THOMPSON'S contention that by means of a logico-aesthetic process human organisms try to integrate their experience toward a more adequate, inner-structural balance.*

*The freedom to act independently from rational practice, however, cannot be taken lightly. Only after the formulation of disciplines of mind and body can the search beyond the power of reason produce works worthy of being called art. In this light, HENRI DE MAN mentions that, "only inspiration can be spontaneous, but the execution requires a vigilant, conscious effort where the brain directs the hand."*

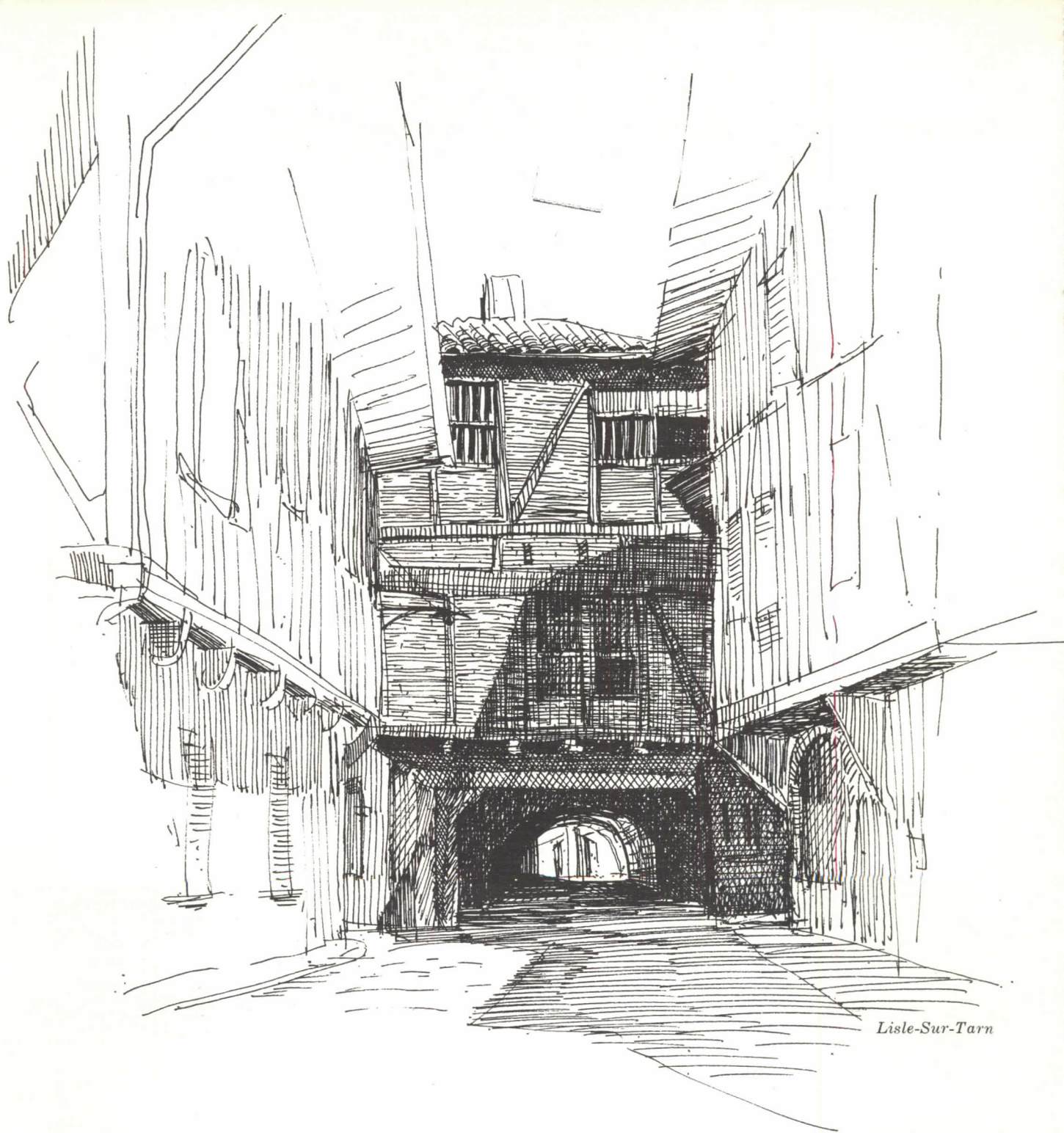
*The dilemma of architecture, then, is that of civilization itself; a perennial conflict between subjectivism and rationalism, ultimately, an attempt to establish an equilibrium of these tensions to create harmony; or as SIR HERBERT READ would have it, an achievement of unity.*

*As in society and similarly in nature, all buildings must have a pervading idea behind their conception; without it the colors, forms, textures, composition, and proportions are meaningless. Without purpose based upon lucid and concise conceptions a design, no matter how well executed, cannot be called a work of art.*



**The basic thing, I believe, is that wrong means will not lead to right results.**

*Jawaharlal Nehru*



*Lisle-Sur-Tarn*



Dr. Laura Thompson

## Culture: Supreme Creation of the Community

Dr. Laura Thompson is Visiting Professor in the Department of Sociology and Anthropology at North Carolina State College and Research Associate in the Laboratories of Anthropology at the University of North Carolina. She has studied over thirty communities at first hand in some fifteen different native groups, including isolated island communities of the South Pacific, desert and semi-oasis communities of the American Southwest, Arctic communities of the North Atlantic, and lowland communities of Europe. She is the author of several books including *Fijian Frontier, Guam and its People, The Hopi Way* (with Alice Joseph, M.D.), *Culture in Crisis*, and *Personality and Government*.

\* This paper in slightly altered form will appear as one chapter in the author's forthcoming book, *Toward a Science of Mankind*, to be published by McGraw Hill Book Co., New York, in May, 1961. It is printed with permission of the author and the publisher.

"... the postulate that culture is an emergent product of human freedom and creativity in relation to human potentialities and those of the geographical environment precludes the danger of reductionism and deductionism and leaves us free to take into consideration all the complex and variable factors which condition the cultural process"<sup>1</sup>

It is here assumed that in prehistoric times the advent of the human species, *Homo sapiens*, and the presence of this new species in a biotic community, did not bring about a change in *kind* regarding the most basic dynamics of the community as a whole. The community, including man, still *tended* to evolve in the direction of the biological goal of all life—namely, self-actualization. Through processes of mutual aid, correlativity, symbiosis, accommodation and competition, each component species in the total arrangement continued *actively* to maneuver itself into a definite position or niche in the life-action supersystem, as the locally-based community tended to evolve in the direction of its life goal.

In other words, the human community is confronted with the problem of survival and self-actualization as a part and parcel of a complex bio-physical event. The stakes are high. It must solve this problem or perish. It represents one species, *Homo sapiens*, of a number of species transacting with one another and with the geo-physical base of the locality, and forming with them an ecological supercommunity.

<sup>1</sup> David Bidney, *Theoretical Anthropology* (New York, 1953) p. 120

But ecological supercommunities which include *Homo sapiens* as a component species differ from those which do not because of the tendency of *Homo sapiens* to create and maintain an intermediary system, namely a *symbolic* system, whereby the human component organizes itself for more effective pursuit of its self-actualization goals. Thus, the presence of man brings a new dimension to a biotic community viewed as a complex ongoing event in space-time.

As is well known, only the human species tends to express itself in terms of symbols. Many animal species communicate by means of signs but only human beings use symbols as well as signs. Indeed, it is generally agreed that this is the only truly *human* trait that distinguishes *Homo sapiens* from his animal relatives. While the human attribute of symbolizing is truly responsible for man's greatness, it should not be forgotten that from it also stem the supremely human problems. "The fact that humans can learn to use systems of symbols and be conditioned to them swells the world of meaning far beyond the mere mammalian level of learning by signs, signals and concrete perceptions. But it promotes the less objectified universe, the gross irrationalities, and, with equal bestowal of the gifts of art, language, science and philosophy, the nonrational use and interpretation of environment, the uncommunicative nonsense, the scourge of war or blight of insanity."<sup>2</sup>

Of man's symbolic systems, language is of course the one we Westerners most easily comprehend and most highly value. Anthropologists equate the emergence of "humanity" in the world with the development of a means of communicating with one another

through language by members of the genus *Homo*.

The German philosopher, Ernst Cassirer, wrote: "... in the human world we find a new characteristic which appears to be the distinctive mark of human life. The functional circle of man is not only quantitatively enlarged; it has also undergone a qualitative change. Man has, as it were, discovered a new method of adapting himself to his environment. Between the receptor system and the effector system, which are to be found in all animal species, we find in man a third link which may be described as the *symbolic system*. This new acquisition transforms the whole of human life. As compared with the other animals man lives not merely in a broader reality; he lives, so to speak, in a new *dimension* of reality."<sup>3</sup>

It should be emphasized, however, that according to the present view, the symbolic system is not merely man's method of *adapting* himself more effectively to his environment. As Clyde Kluckhohn has pointed out, in regard to culture the concept of "adaptation" is *not enough*.

"We require a way of thinking," states Kluckhohn, "which takes account of the pull of expectancies as well as the push of tensions, which recognizes that growth and creativity come as much or more from instability as from stability, which emphasizes culturally created values as well as the immediately observable external environment."<sup>4</sup>

## CULTURE

Accordingly, a human culture is here viewed as a symbolic system created, maintained, recreated, and passed on through the gene-

<sup>2</sup> Marvin K. Opler, *Culture, Psychiatry, and Human Values, The Methods and Values of a Social Psychiatry*. (Springfield, 1956) p. 53. (Foreword by T. A. C. Rennie, M.D.)

<sup>3</sup> Ernst Cassirer, *An Essay on Man* (New Haven, 1944) p. 42-43

<sup>4</sup> Clyde Kluckhohn, "The Limitations of Adaptation and Adjustment as Concept's for Understanding Cultural Behavior", *Adaptation*, J. Romano (Editor), (Ithaca, 1949) p. 113



rations by a specific human community participating as one component of a relatively isolated, biotic supersystem, itself transacting as part of complex, geo-physical events. The culture of a local community is that community's distinctively human way of transacting with its total effective environment, and the culture's uniqueness is a function of the unique transactive situation of the human group due to: 1. its own unique psychosomatic and genetic composition; 2. its unique on-going culture history; 3. the unique and changing biotic supercommunity wherein the human community comprises one component; and 4. the unique and changing geo-physical base of the super-community, including its changing climate.

Anthropologists agree that the local community is the cradle of so-called "race". Every isolated human community, to the extent that it represents a genetic isolate through time, provides a natural laboratory for the evolution of local variations (subspecies) of *Homo sapiens*.

I emphasize here that, according to the present thesis, *the local community is also the cradle of culture*. For a hundred thousand years the human population of the world lived in small, isolated communities under ideal conditions for the creation of "genuine" cultures. Throughout the millennia of the Paleolithic, Mesolithic, and Neolithic eras mankind lived in small, rural communities between which communication was limited. Even with the development of towns in the Bronze Age, these were relatively small and the majority of the world's peoples remained rural. Today, despite the urbanization of life in a few great industrial centers, the great bulk of the world's hundreds of millions still lives in rural communities. Thus, from the viewpoint of an emerging science of mankind, the small, relatively isolated, and deeply-

rooted local community affords the ideal basic unit of research, the natural laboratory for unifying the two main divisions of anthropology, physical and cultural.

A culture cannot be described in an *explanatory* fashion except as part of a more inclusive, on-going supersystem embracing human community, natural biotic community, and relevant geo-physical or cosmic events. A culture is especially incomprehensible apart from the human group which expresses and fosters it. The ethnographer observes the overt behavior of the human community and the products of behavior. It is the human beings themselves — transacting with one another and with the animals, plants, micro-organisms, and the elements of their world (earth, sea, sky, sun, moon and stars)—it is these that the ethnographer apprehends and/or himself transacts with, as well as the products of human cultural activities (houses, canoes, utensils, baskets, pottery, etc.). From observations and other types of information regarding native behavior, the ethnographer *abstracts* the culture.

It should not be forgotten that the community's symbolic system—that is, its culture—is in no way a static phenomenon. Human beings, and indeed all organisms, are activity systems. Activity is their primary shared characteristic. A non-active organism is a sick or a dead organism. Thus, the healthy human group—the healthy community—reactivates, or creates or recreates its culture every day, every month, every year. Each new-born individual, each new generation, reactivates and recreates it—expresses it anew in an idiosyncratic way. Indeed, the individual is so culture-bound—he builds his culture to such an extent into his muscle and nerve system, even his very bony structure—that he cannot act at all except in its terms.

A certain spontaneity is a basic ingredient

of this culture reactivation process which is a component of human community living. It is the type of spontaneity which Moreno has called "activation of the cultural conserve." As a dramatic actor reactivates his role, performance after performance, and infuses into the word, repeated by rote, something of himself which is new and idiosyncratic, so each individual in the community infuses into even the most stereotyped cultural role his idiosyncratic version of the culture, expressed at his particular point of reference.

It is just at this point—namely, the necessary reactivation of the "culture conserve" by each individual in the group—that we grasp the *inevitability of culture change*. Every minute, every day, the culture of a community is being reworked, recreated, re-rendered by its component members.

For many years we assumed that certain Stone Age cultures, such as that of the Australian Aborigines, had persisted with little or no change from the Paleolithic era to recent times, somewhat after the fashion of archaeological relics. We now know, on the basis of empirical field evidence, that even apparently "static" cultures are constantly undergoing subtle changes within the functional eco-cultural supersystem. Elkin discovered, for example, that the complex Australian eight-class kinship system\*\* has spread to new areas within the northwest Aborigine territory in recent years.

A relevant question regarding this aspect of culture is: *How* is a culture constantly reactivated and reworked? By what processes is it constantly remade?

Human beings tend not only to symbolize as individuals, but they tend to symbolize *together in communities*, and they tend thus

\*\* The Australian eight-class system is the most complicated kinship system ever discovered. It is based on the principle of unilinear descent through either the male or the female line, and the resulting clan groupings are divided into eight classes which regulate interclan marriage.

to create and recreate complex symbolic systems. But that is not all. They *tend* to create complex symbol systems which are moving in the direction of a *balanced and harmonious relationship with the effective environment*. "Culture is not a mass of beliefs and ideas, but a balanced harmony, and our comprehension depends on our ability to place every idea in its proper surroundings and to determine its bearings upon all the other ideas." <sup>5</sup>

A trend toward culture change in the direction of greater harmony of the parts in relation to one another and to the whole has long been recognized by some social scientists, but an appropriate explanation of such a trend has tended to elude us. Already at the turn of the century, Sumner referred to "the strain of the mores toward consistency." In the twenties Edward Sapir called attention to the fact that some cultures are balanced and harmonious and these he called "genuine":

"The genuine culture is not of necessity either high or low; it is merely inherently harmonious, balanced, self-satisfactory. It is the expression of a richly varied and yet somehow unified and consistent attitude toward life, an attitude which sees the significance of any one element of civilization in its relation to all others. . . The major activities of the individual must directly satisfy his own creative and emotional impulses, must always be something more than means to an end . . . A culture that does not build itself out of the central interests and desires of its bearers, that works from general ends to the individual, is an external culture . . . The genuine culture is internal, it works from the individual to ends." <sup>6</sup>

<sup>5</sup> V. P. Groenbech, *The Culture of The Teutons*, (Translated from the Danish 1909-1912), (London, 1931), 1:214

<sup>6</sup> Edward Sapir, "Culture, Genuine and Spurious", *American Journal of Sociology*, 1924, 29:410-12



In 1941 Redfield wrote, "Culture is an organization of conventional understandings manifest in act and artifact . . . Left undisturbed, the trend of change in the conventional understandings in terms of which a community persists is in the direction of greater harmony and interdependence of parts."<sup>7</sup> He viewed this as related to what he called a "regenerative tendency in culture"; namely, a tendency to reorganize itself by the elimination of "incompatibles."<sup>8</sup>

Later Sir Julian Huxley discussed what he called *noetic integrators* of culture— "symbolic or conceptual constructions which serve to interpret large fields of reality, to transform experience into attitude and unify factual knowledge in belief."<sup>9</sup> But he noted

significantly that the general role of such integrators had never been adequately explored.

Malinowski made a suggestion as to the nature of the harmonizing process when he stated: "Each culture owes its completeness and self-sufficiency to the fact that it satisfies the whole range of basic, instrumental and integrative needs."<sup>10</sup> The danger in this approach, as Dorothy Lee has suggested with her usual penetration into the nature of culture process, is that we shall slip into the implicit assumption of stimulus-response, behavioristic psychology that "culture is a group of patterned means for the satisfaction of a list of human needs."<sup>11</sup> Culture is not "a response to the total needs of a society";

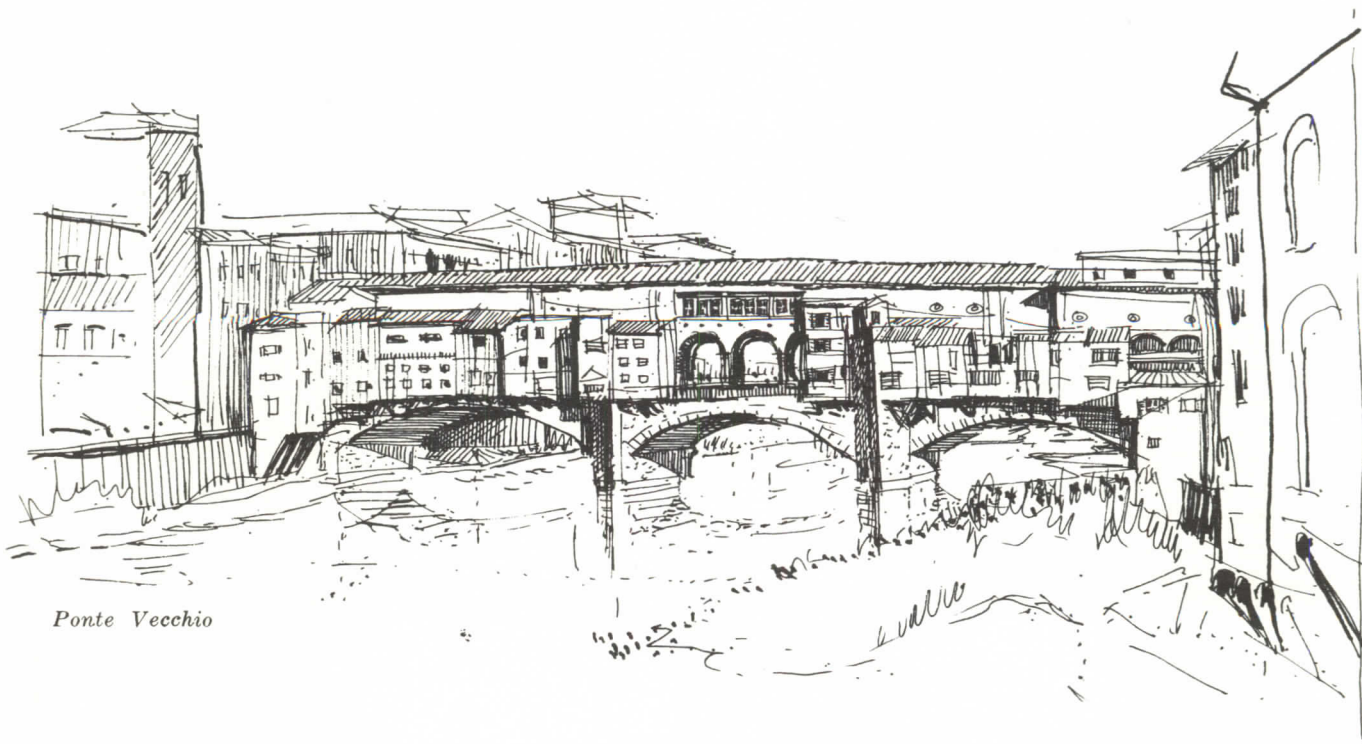
<sup>7</sup> Robert Redfield, *The Folk Culture of the Yucatan* (Chicago, 1941) p. 133, p. 141

<sup>8</sup> *Ibid.*, pp. 146-147

<sup>9</sup> Sir Julian S. Huxley, *New Bottles for New Wine* (New York, 1957) p. 54

<sup>10</sup> Bronislaw Malinowski, *A Scientific Theory of Culture and Other Essays* (Chapel Hill, 1944) p. 40

<sup>11</sup> Dorothy Lee, "Are Basic Needs Ultimate?", *Journal of Abnormal and Social Psychology*, 1948, 43:390



Ponte Vecchio

but rather a system which stems from and expresses something had, the basic values of the society."<sup>12</sup>

A major finding of our American Indian Personality project was the discovery, by means of empirical field observations and tests, of the key role played by the core values set of variables in the community supersystem. A related finding was that, contrary to initial assumptions on the part of the research staff, the group personality set of variables was not related *directly* to the social structure set, but rather was related to it indirectly by means of the core value set of variables.

I suggested in the final report of this project<sup>13</sup> that the community's pattern of basic attitudes and beliefs (that is, its core value system) functions as the key integrating mechanism between the several interdependent sets of variables relevant to the solution of the total community welfare problem. Posing the welfare problem in terms that merely seek a correlation between the social system and the group personality structure cannot yield an adequate solution. For these two sets of variables are interdependent, not overtly and directly, but indirectly and covertly through a common set of basic values.

Moving out from an emphasis on core values as subtly and indirectly related to human needs and potentials, I view this tendency toward balance and harmony in a culture system as an expression of the universal dynamics of natural supercommunity process at the symbolic or cultural level. We have assumed that biotic community process is an expression of the universal directive-

ness of organic activities at the community level, and from its operation, in geographic isolation and through historic time, emerges the climax or optimum supercommunity in total relevant context. Symbolic community process is thus an expression of the universal directiveness of organic activities at the human level, and from its operation in isolation and through time emerges the "genuine" or balanced and harmonious culture.

### LOGICO-AESTHETIC INTEGRATION

The process whereby the human community tends to integrate its symbolic or cultural system transactively with the effective environment is here viewed as both *directive*, that is unconscious, and *purposive*, that is conscious. It is viewed as both intuitive or *aesthetic*, and consciously thought-out or *logical*, from the viewpoint of the native conceptual frame. Sorokin has described the process, but in calling it "logico-meaningful" he has *explicitly* labeled only one aspect of it, namely the logical or conscious aspect. ". . . the logico-meaningful method," he states, "has its own common denominator of all relevant phenomena: *it is the identity (or similarity) of central meaning, idea, or mental bias that permeates all logically related fragments.*"<sup>14</sup> Actually, just as in human creative mentation on the individual level, unconscious processes are far more significant than conscious ones, the aesthetic or "intuitive" aspect of culture process is obviously far more significant than the logical aspect.

The tendency in our culture to over-emphasize rational and logical processes when pinpointing man's *humanness* is familiar to us all. It may help to clarify the point, however, to quote Sir Julian Huxley:

<sup>12</sup> Ibid., p. 390

<sup>13</sup> Laura Thompson, "Personality and Government: Findings and Recommendations of the Indian Administration Research", (Mexico, F. D., 1951) 11:180

<sup>14</sup> Pitirim A. Sorokin, "Social and Cultural Dynamics," (New York, 1937) 1:24



"Thinkers discussing the distinctive characters of man have usually laid their main or sole emphasis on intellectual or rational thought, and on language as its vehicle. This is precisely because they were thinkers, not artists, or practical men, or religious mystics, and therefore tended to over-value their own methods of coping with reality and ordering experience . . . But this intellectual and linguistic overemphasis is dangerous. It readily degenerates into logic-chopping or mere verbalism. What is more serious, it takes no account of man's emotional and aesthetic capacities, exalts reason and logical analysis at the expense of intuition and imagination, and neglects the important role of arts and skills, rituals and religious experiences in social life and cultural evolution."<sup>15</sup>

This logico-aesthetic integrating dynamic I view as a distinctively human variation of the directiveness which characterizes all organic activities, according to the new biology. It probably operates in groups mainly at the unconscious level, but also to varying degrees at the conscious, or what is here called *purposive*, level.

For example, in Papago Indian villages it was the custom until recently for all the adult males to meet nightly in the village round house to discuss village problems, such as defense against Apache raiders. This was the *vested governing* power of the community. In each village, or even where two or three families were camping together, a nightly men's meeting was held. It decided on communal activities; horticultural work, hunts, war, the dates of ceremonies, games with other villages. It approved the installation of a chief or of new residents in the village. If the events of the day left nothing

specific to discuss, the men would come together and just talk. Signs of the enemy or tracks of game were reported; visitors from other villages were welcomed and questioned.

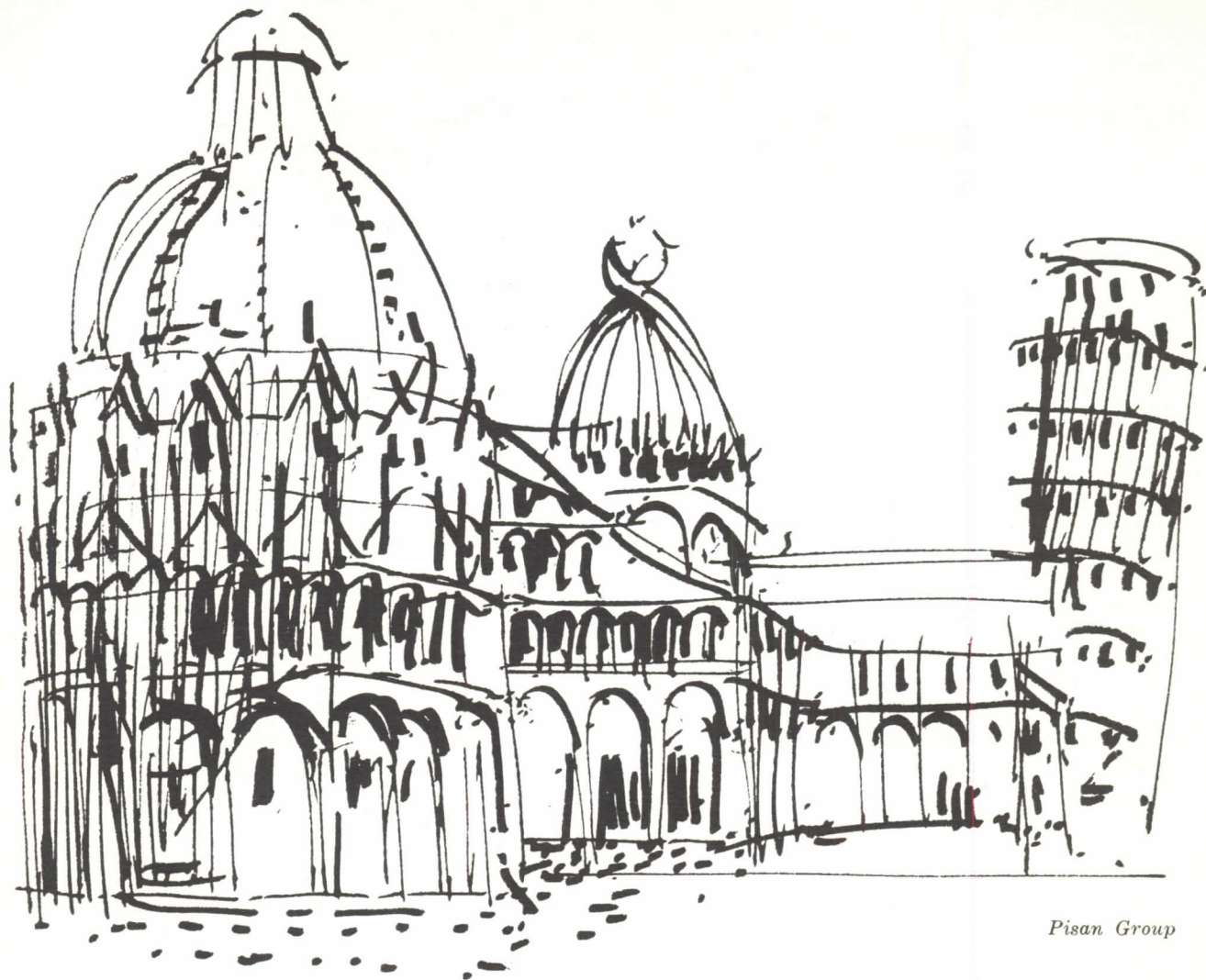
Papago men still meet in village councils but meetings are less frequent and regular. The problems are still pressing, but their complexion has the current ring of land assignment, stock breeding, and the policies of the Agency. Everyone has his say if it takes all night. Nowadays, there is not always unanimity for the simple reason that there is not time. The village is no longer an isolated unit, but part of the white man's world where prompt action must be taken on government proposals.

This illustrates the perpetuation of an institutionalized community mechanism whereby the group, regularly, consciously, and purposively, faced its practical problems. Little by little, night by night, it changed its culture voluntarily and by mutual consent in the direction of logico-aesthetic integration in relation to other tribes and within the exigencies of the great desert ecosystem where the tribe has lived successfully for millennia.

*According to the present hypothesis, the logico-aesthetic integrating dynamic is responsible for the tendency of communities, when disturbed under certain kinds and degrees of stress, to develop their cultures in the direction of a new, more adequate, inner-structural balance in transaction with the effective environment. This tendency is here postulated as a human cultural universal.*

Of course, the logico-aesthetic integrative process is unlikely to actualize a wholly rational cultural gestalt. It should be emphasized that such a gestalt is not suggested here as a goal. But I postulate that the group does *tend* to move toward a cultural goal

<sup>15</sup> Huxley, op. cit., p. 49



*Pisan Group*

which is functional in relation to the biological ends of the community already defined. This trend or movement is constantly subjected, of course, to stresses both from without the community and within it, so that the group's movement toward the goal tends to be uneven, halting, irregular, and to some extent at least, blocked and compensatory. Indeed, such interference with cultural proc-

ess itself. But to understand it we should study compensatory *mechanisms both at the cultural level and at the level of individual personality.*

This universal human process—namely, logico-aesthetic integration — operating at either the unconscious or the conscious level in a human community which expresses and recreates a culture system, seems to be re-



sponsible for the inference that in every highly integrated culture the basic structures (or subsystems) of the culture *tend* to express a common system model.

For example, the ecological subsystem, the social subsystem, the psychosomatic subsystem, and the symbolic subsystem—all tend to express an identical motif. In other words, in “genuine” cultures this motif tends to characterize both the culture system as a whole and its several subsystems, including their manifestations in individual overt behavior patterns, and in individual personality structures.

From what has gone before it follows that our working definition of personality should be one which stresses the innate directiveness of the human organism.

Directive and self-actualizing tendencies in organic life are currently recognized explicitly by many psychiatrists and psychologists. In the words of Carl Rogers, “The organism has one basic tendency and striving—to actualize, maintain, and enhance the experiencing organism.”<sup>16</sup> These words, he states, “are an attempt to describe the observed directional force in organic life—a force which has been regarded as basic by many scientists. . . .”<sup>17</sup>

In developing a working concept of personality as a group phenomenon, I emphasize the individual’s positive tendency in the direction of integrating and building his privately sensed, perceived, and experienced reality world into his own developing psychosomatic organism—into *neuro-muscular system* as well as psychic-system—toward self-actualization and fulfillment of ultimate biological goals. Each human organism tends

to do this, according to the present theory, by means of a logico-aesthetic dynamic which is part of his essentially human biological equipment. This logico-aesthetic dynamic is postulated as the basic process whereby the human organism tries to integrate his experience, as he senses, perceives and lives through it, in the direction of personality wholeness and balance in transaction with his immediate environment—internal and external, human and non-human—as he senses, perceives and experiences that environment.

Thus, the *need and striving for inner integrity is inherent in human nature*. Personality integrity is here postulated as a positive goal, toward which the individual tends to strive as a function of his built-in, logico-aesthetic personality-integrating dynamic, which is a manifestation at the human level of the universal directiveness of organic life.

To sum up, a human culture is here conceived as a symbolic system created, structured, maintained, and recreated by a human community as its idiosyncratically *human* way of organizing itself as part of a natural event in space-time toward the active pursuit of its biological goals. It is an expression at the human level of the goal-seeking tendency inherent in all organisms.

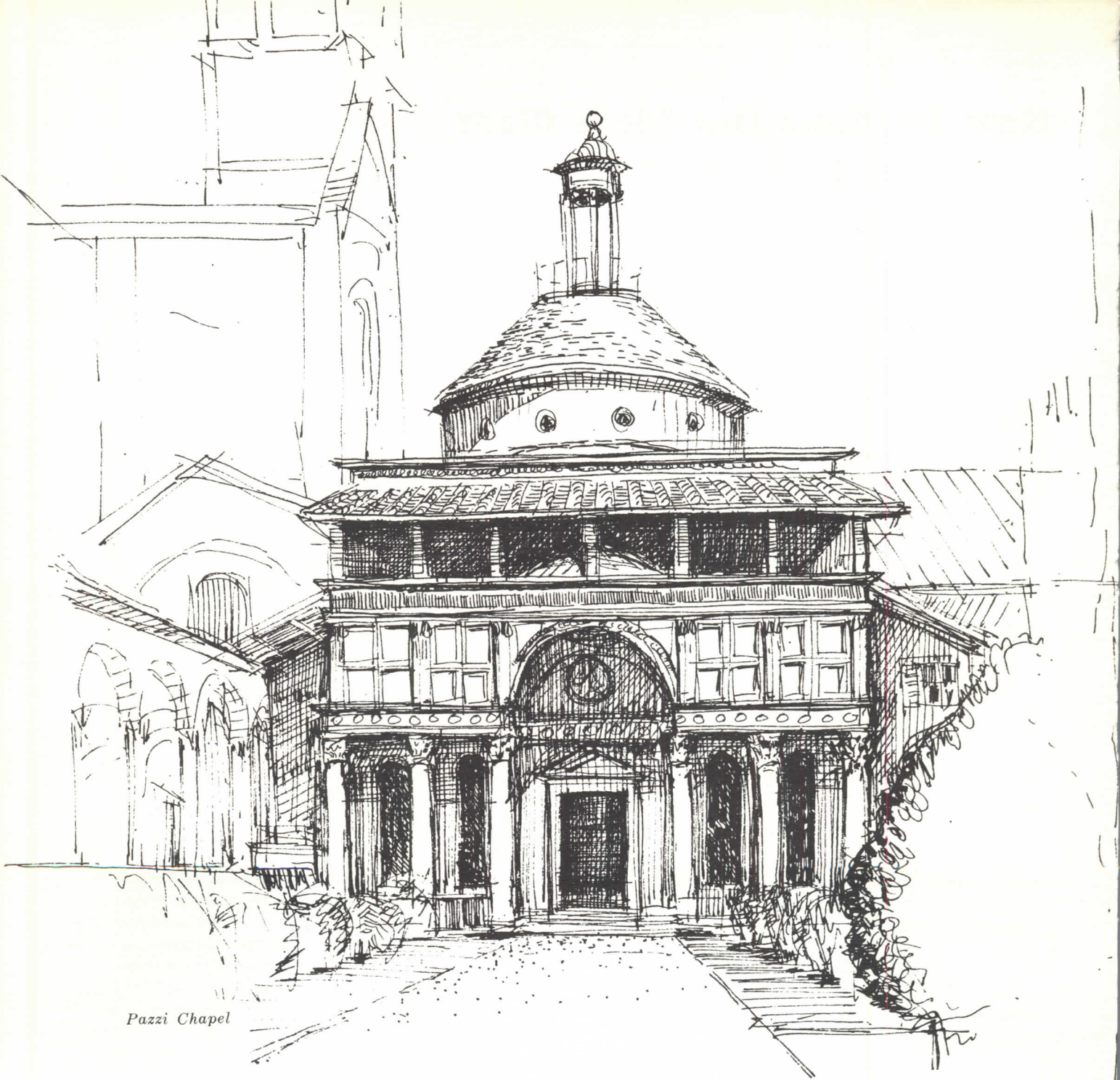
Just as movement in the development of the individual is primary according to the new neurology, so *action* in the creation, organization and re-creation of a culture is primary.

“Purpose” is intrinsic to the organization of a cultural group and of its human components viewed as psychosomatic organisms. And “purpose” guides both the patterns of perception of the human components and their total patterns of action.

<sup>16</sup> Carl R. Rogers, *Client-Centered Therapy: Its Current Practice, Implications, and Theory* (New York, 1951) p. 487

<sup>17</sup> *Ibid.*, p. 488





*Pazzi Chapel*

## How To Make Our Ideas Clear

Charles S. Peirce (1839-1914) was the first to formulate pragmatism as a doctrine of meaning and method of inquiry. One of the most original philosophers which the United States has ever produced, his was the first American philosophical contribution to the urgent problem of humanizing the sciences.

His was a constant plea for truth and justice, believing that any nation or people not seeing them as living realities was doomed to live in continual confusion. He cried for more disinterested scientific and speculative thought which would lead a quest for a truly humane synthesis of common sense, science, philosophy and religion.

Rather than merely humanizing the sciences in some superficial, reforming manner, Peirce attempted to shape an attitude which would converge on mankind's common problems: ignorance, poverty, war, and disease. He approached this task believing that the realities corresponding to truth could eventually be discovered by individual minds sharing common goals.

**I** Whoever has looked into a modern treatise on logic of the common sort, will doubtless remember the two distinctions between *clear* and *obscure* conceptions, and between *distinct* and *confused conceptions*. They have lain in the books now for nigh two centuries, unimproved and unmodified, and are generally reckoned by logicians as among the gems of their doctrine.

*A clear idea is defined as one which is so apprehended that it will be recognized wherever it is met with, and so that no other will be mistaken for it. If it fails of this clearness, it is said to be obscure.*

This is rather a neat bit of philosophical terminology; yet, since it is clearness that they were defining, I wish the logicians had made their definition a little more plain. Never to fail to recognize an idea, and under no circumstances to mistake another for it, let it come in how recondite a form it may, would indeed imply such prodigious force and clearness of intellect as is seldom met with in this world. *On the other hand, merely to have such an acquaintance with the idea as to have become familiar with it, and to have lost all hesitancy in recognizing it in ordinary cases, hardly seems to deserve the name of clearness of apprehension, since after all it only amounts to a subjective feeling of mastery which may be entirely mistaken.* I take it, however, that when the logicians speak of "clearness," they mean nothing more than such a familiarity with an idea, since they regard the quality as but a small merit, which needs to be supplemented by another, which they call *distinctness*.



*A distinct idea is defined as one which contains nothing which is not clear.* This is technical language; by the *contents* of an idea logicians understand whatever is contained in its definition. *So that an idea is distinctly apprehended, according to them, when we can give a precise definition of it, in abstract terms.* Here the professional logicians leave the subject; and I would not have troubled the reader with what they have to say, if it were not such a striking example of how they have been slumbering through ages of intellectual activity, listlessly disregarding the enginery of modern thought, and never dreaming of applying its lessons to the improvement of logic. It is easy to show that the doctrine that familiar use and abstract distinctness make the perfection of apprehension has its only true place in philosophies which have long been extinct; and it is now time to formulate the method of attaining to a more perfect clearness of thought, such as we see and admire in the thinkers of our own time.

When Descartes set about the reconstruction of philosophy, his first step was to (theoretically) permit skepticism and to discard the practice of the schoolmen of looking to authority as the ultimate source of truth. That done, he sought a more natural fountain of true principles, and professed to find it in the human mind; thus passing, in the directest way, from the methods of authority to that of apriority, as described in my first paper. Self-consciousness was to furnish us with our fundamental truths, and to decide what was agreeable to reason. But since, evidently, not all ideas are true, he was led to note, as the first condition of infallibility, that they must be clear. The distinction between an idea *seeming* clear and really being so, never occurred to him. Trusting to introspection, as he did, even for a

knowledge of external things, why should he question its testimony in respect to the contents of our own minds? But then, I suppose, seeing men, who seemed to be quite clear and positive, holding opposite opinions upon fundamental principles, he was further led to say that *clearness of ideas is not sufficient, but that they need also to be distinct, i.e., to have nothing unclear about them.* What he probably meant by this (for he did not explain himself with precision) was, that *they must sustain the test of dialectical examination; that they must not only seem clear at the outset, but that discussion must never be able to bring to light points of obscurity connected with them.*

Such was the distinction of Descartes, and one sees that it was precisely on the level of his philosophy. It was somewhat developed by Leibnitz. This great and singular genius was as remarkable for what he failed to see as for what he saw. *That a piece of mechanism could not do work perpetually without being fed with power in some form, was a thing perfectly apparent to him; yet he did not understand that the machinery of the mind can only transform knowledge, but never originate it, unless it be fed with facts of observation.* He thus missed the most essential point of the Cartesian philosophy, which is, that to accept propositions which seem perfectly evident to us is a thing which, whether it be logical or illogical, we cannot help doing. Instead of regarding the matter in this way, he sought to reduce the first principles of science to formulas which cannot be denied without self-contradiction, and was apparently unaware of the great difference between his position and that of Descartes. So he reverted to the old formalities of logic, and, above all, abstract definitions played a great part in his philosophy. It was quite natural, therefore, that on observing that the

method of Descartes labored under the difficulty that we may seem to ourselves to have clear apprehension of ideas which in truth are very hazy, no better remedy occurred to him than to require an abstract definition of every important term. Accordingly, in adopting the distinction of *clear* and *distinct* motions, he described the latter quality as the clear apprehension of everything contained in the definition; and the books have ever since copied his words. *There is no danger that his chimerical scheme will ever again be over-valued. Nothing new can ever be learned by analyzing definitions. Nevertheless, our existing beliefs can be set in order by this process, and order is an essential element of intellectual economy, as of every other. It may be acknowledged, therefore, that the books are right in making familiarity with a notion the first step toward clearness of apprehension, and the defining of it the second.* But in omitting all mention of any higher perspicuity of thought, they simply mirror a philosophy which was exploded a hundred years ago. That much-admired "ornament of logic"—the doctrine of clearness and distinctness—may be pretty enough, but it is high time to relegate to our cabinet of curiosities the antique *bijou*, and to wear about us something better adapted to modern uses.

*The very first lesson that we have a right to demand that logic shall teach us is, how to make our ideas clear; and a most important one it is, depreciated only by minds who stand in need of it. To know what we think, to be masters of our own meaning, will make a solid foundation for great and weighty thought. It is most easily learned by those whose ideas are meagre and restricted; and far happier they than such as wallow helplessly in a rich mud of conceptions. A nation, it is true, may, in the course of generations, overcome the disadvantage of an excessive*

wealth of language and its natural concomitant, a vast unfathomable deep of ideas. We may see it in history, slowly perfecting its literary forms, sloughing at length its metaphysics and, by virtue of the untirable patience which is often a compensation, attaining great excellence in every branch of mental acquirement. The page of history is not yet unrolled which is to tell us whether such a people will or will not in the long-run prevail over one whose ideas (like the words of their language) are few, but which possesses a wonderful mastery over those which it has. For an individual, however, *there can be no question that a few clear ideas are worth more than many confused ones.* A young man would hardly be persuaded to sacrifice the greater part of his thoughts to save the rest; and the muddled head is the least apt to see the necessity of such a sacrifice. Him we can usually only commiserate, as a person with a congenital defect. Time will help him, but intellectual maturity with regard to clearness comes rather late, an unfortunate arrangement of Nature, inasmuch as clearness is of less use to a man settled in life, whose errors have in great measure had their effect, than it would be to one whose path lies before him. *It is terrible to see how a single unclear idea, a single formula without meaning, lurking in a young man's head, will sometimes act like an obstruction of inert matter in an artery, hindering the nutrition of the brain, and condemning its victim to pine away in the fullness of his intellectual vigor and in the midst of intellectual plenty. Many a man has cherished for years as his hobby some vague shadow of an idea, too meaningless to be positively false; he has, nevertheless, passionately loved it, has made it his companion by day and by night, and has given to it his strength and his life, leaving all other occupations for its sake,*



*and in short has lived with it and for it, until it has become, as it were, flesh of his flesh and bone of his bone; and then he was waked up some bright morning to find it gone, clean vanished away like the beautiful Melusina of the fable, and the essence of his life gone with it. I have myself known such a man; and who can tell how many histories of circle-squarers, metaphysicians astrologers, and what not, may not be told in the old German story?*

16

**I**I The principles set forth in the first of these papers led, at once, to a method of reaching a clearness of thought of a far higher grade than the "distinctness" of the logicians. We have there found that **the action of thought is excited by the irritation of doubt, and ceases when belief is attained; so that the production of belief is the sole function of thought.** All these words, however, are too strong for my purpose. It is as if I had described the phenomena as they appear under a mental microscope. Doubt and Belief, as the words are commonly employed, relate to religious or other grave discussions. But here I use them to designate the starting of any question, no matter how small or how great, and the resolution of it. If, for instance, in a horse-car, I pull out my purse and find a five-cent nickel and five coppers, I decide, while my hand is going to the purse, in which way I will pay my fare. To call such a question Doubt, and my decision Belief, is certainly to use words very disproportionate to the occasion. To speak of such a doubt as causing an irritation which needs to be appeased, suggests a temper which is uncomfortable to the verge of insanity. Yet, looking at the matter minutely, it must be admitted that, if there is the least hesitation as to whether I shall pay the five coppers or the nickel (as there will be sure to be, unless



*Palazzo Vecchio*

I act from some previously contracted habit in the matter), though irritation is too strong a word, yet I am excited to such small mental activity as may be necessary to deciding how I shall act. *Most frequently doubts arise from some indecision, however momentary, in our action.* Sometimes it is not so. I have, for example, to wait in a railway-station, and to pass the time I read the advertisements on the walls, I compare the advantages of different trains and different routes which I never expect to take, merely fancying myself to be in a state of hesitancy, because I am bored with having nothing to trouble me. Feigned hesitancy, whether feigned for mere amusement or with a lofty purpose, plays a great part in the production of scientific inquiry. *However the doubt may originate, it stimulates the mind to an activity which may be slight or energetic, calm or turbulent. Images pass rapidly through consciousness, one incessantly melting into another, until at last, when all is over—it may be in a fraction of a second, in an hour, or after long years—we find ourselves decided as to how we should act under such circumstances as those which occasioned our hesitation. In other words, we have attained belief.*

In this process we observe two sorts of elements of consciousness, the distinction between which may best be made clear by means of an illustration. In a piece of music there are the separate notes, and there is the air. A single tone may be prolonged for an hour or a day, and it exists as perfectly in each second of that time as in the whole taken together; so that, as long as it is sounding, it might be present to a sense from which everything in the past was as completely absent as the future itself. But it is different with the air, the performance of which occupies a certain time, during the portions of which only portions of it are played. It con-

sists in an orderliness in the succession of sounds which strike the ear at different times; and to perceive it there must be some continuity of consciousness which makes the events of a lapse of time present to us. We certainly only perceive the air by hearing the separate notes; yet we cannot be said to directly hear it, for we hear only what is present at the instant, and an orderliness of succession cannot exist in an instant. *These two sorts of objects, what we are immediately conscious of and what we are mediately conscious of, are found in all consciousness. Some elements (the sensations) are completely present at every instant so long as they last, while others (like thought) are actions having beginning, middle, and end, and consist in a congruence in the succession of sensations which flow through the mind. They cannot be immediately present to us, but must cover some portion of the past or future. Thought is a thread of melody running through the succession of our sensations.*

We may add that just as a piece of music may be written in parts, each part having its own air, so various systems of relationship of succession subsist together between the same sensations. These different systems are distinguished by having different motives, ideas, or functions. *Thought is only one such system, for its sole motive, idea, and function, is to produce belief, and whatever does not concern that purpose belongs to some other system of relations.* The action of thinking may incidentally have other results; it may serve to amuse us, for example, and among *dilettanti* it is not rare to find those who have so perverted thought to the purposes of pleasure that it seems to vex them to think that the questions upon which they delight to exercise it may ever get finally settled; and a positive discovery which takes

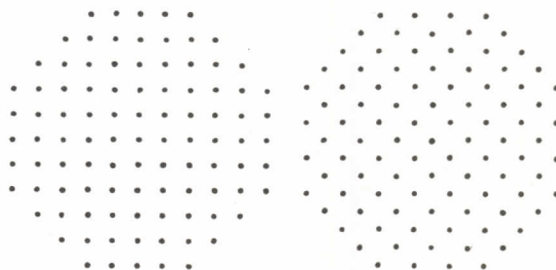


a favorite subject out of the arena of literary debate is met with ill-concealed dislike. This disposition is the very debauchery of thought. But the soul and meaning of thought, abstracted from the other elements which accompany it, though it may be voluntarily thwarted, can never be made to direct itself toward anything but the production of belief. Thought in action has for its only possible motive the attainment of thought at rest; and whatever does not refer to belief is no part of the thought itself.

And what, then, is belief: It is the demi-cadence which closes a musical phrase in the symphony of our intellectual life. We have seen that it has just three properties: First, it is something that we are aware of; second, it appeases the irritation of doubt; and, third, it involves the establishment in our nature of a rule of action, or, say for short, a habit. As it appeases the irritation of doubt, which is the motive for thinking, thought relaxes, and comes to rest for a moment when belief is reached. But, since belief is a rule for action, the application of which involves further doubt and further thought, at the same time that it is a stopping-place, it is also a new starting place for thought. That is why I have permitted myself to call it thought at rest, although thought is essentially an action. The final upshot of thinking is the exercise of volition, and of this thought no longer forms a part; but belief is only a stadium of mental action, an effect upon our nature due to thought, which will influence future thinking.

The essence of belief is the establishment of a habit, and different beliefs are distinguished by the different modes of action to which they give rise. If beliefs do not differ in this respect, if they appease the same doubt by producing the same rule of action, then no mere differences in the manner of

consciousness of them can make them different beliefs, any more than playing a tune in different keys is playing different tunes.



1

2

Imaginary distinctions are often drawn between beliefs which differ only in their mode of expression;—the wrangling which ensues is real enough, however. To believe that any objects are arranged as in Fig. 1, and to believe that they are arranged in Fig. 2, are one and the same belief; yet it is conceivable that a man should assert one proposition and deny the other. Such false distinctions do as much harm as the confusion of beliefs really different, and are among the pitfalls of which we ought constantly to beware, especially when we are upon metaphysical ground. One singular deception of this sort, which often occurs, is to mistake the sensation produced by our own unclearness of thought for a character of the object we are thinking. Instead of perceiving that the obscurity is purely subjective, we fancy that we contemplate a quality of the object which is essentially mysterious; and if our conception be afterward presented to us in a clear form we do not recognize it as the same, owing to the absence of the feeling of unintelligibility. So long as this deception lasts, it obviously puts

an impassable barrier in the way of perspicuous thinking; so that it equally interests the opponents of rational thought to perpetuate it, and its adherents to guard against it.

*Another such deception is to mistake a mere difference in the grammatical construction of two words for a distinction between the ideas they express.* In this pedantic age, when the general mob of writers attend so much more to words than to things, this error is common enough. When I just said that thought is an *action*, and that it consists in a *relation*, although a person performs an action but not a relation, which can only be the result of an action, yet there was no inconsistency in what I said, but only a grammatical vagueness.

*From all these sophisms we shall be perfectly safe so long as we reflect that the whole function of thought is to produce habits of action; and that whatever there is connected with a thought, but irrelevant to its purpose, is an accretion to it, but no part of it. If there be a unity among our sensations which has no reference to how we shall act on a given occasion, as when we listen to a piece of music why we do not call that thinking. To develop its meaning, we have, therefore, simply to determine what habits it produces, for what a thing means is simply what habits it involves. Now, the identity of a habit depends on how it might lead us to act, not merely under such circumstances as are likely to arise, but under such as might possibly occur, no matter how improbable they may be. What the habit is depends on when and how it causes us to act. As for the when, every stimulus to action is derived from perception; as for the how, every purpose of action is to produce some sensible result. Thus, we come down to what is tangible and practical, as the root of every real distinction*

**of thought, no matter how subtle it may be; and there is no distinction of meaning so fine as to consist in anything but a possible difference of practice.**

To see what this principle leads to, consider in the light of it such a doctrine as that of transubstantiation. The Protestant churches generally hold that the elements of the sacrament are flesh and blood only in a tropical sense; they nourish our souls as meat and the juice of it would our bodies. But the Catholics maintain that they are literally just that; though they possess all the sensible qualities of wafer-cakes and diluted wine. But we can have no conception of wine except what may enter into a belief, either—

1. That this, that, or the other, is wine;  
or,
2. That wine possesses certain properties.

Such beliefs are nothing but self-notifications that we should, upon occasion, act in regard to such things as we believe to be wine according to the qualities which we believe wine to possess. The occasion of such action would be some sensible perception, the motive of it to produce some sensible result. Thus our action has exclusive reference to what affects the senses, our habit has the same bearing as our action, our belief; the same as our habit, our conception the same as our belief; and we can consequently mean nothing by wine but what has certain effects, direct or indirect, upon our senses; and to talk of something as having all the sensible characters of wine, yet being in reality blood, is senseless jargon. Now, it is not my object to pursue the theological question; and having used it as a logical example I drop it, without caring to anticipate the theologian's reply. *I only desire to point out how impossible it is that we should have an idea in our minds which relates to anything but conceived sensible effects of things. Our idea of*



*anything is our idea of its sensible effects; and if we fancy that we have any other we deceive ourselves, and mistake a mere sensation accompanying the thought for a part of the thought itself.* It is absurd to say that thought has any meaning unrelated to its only function. It is foolish for Catholics and Protestants to fancy themselves in disagreement about the elements of the sacrament, if they agree in regard to all their sensible effects, here or hereafter.

It appears, then, that the rule for attaining the third grade of clearness of apprehension is as follows: **Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.**

**III** Let us illustrate this rule by some examples; and, to begin with the simplest one possible, let us ask what we mean by calling a thing *hard*. Evidently that it will not be scratched by many other substances. The whole conception of this quality, as of every other, lies in its conceived effects. *There is absolutely no difference between a hard thing and a soft thing so long as they are not brought to the test.* Suppose, then, that a diamond could be crystallized in the midst of a cushion of soft cotton, and should remain there until it was finally burned up. Would it be false to say that that diamond was soft? This seems a foolish question, and would be so, in fact, except in the realm of logic. There such questions are often of the greatest utility as serving to bring logical principles into sharper relief than real discussions ever could. In studying logic we must not put them aside with hasty answers, but must consider them with attentive care in order to make out the principles involved. We may, in the present case, modify our ques-

tion, and ask *what prevents us from saying that all hard bodies remain perfectly soft until they are touched, when their hardness increases with the pressure until they are scratched.* Reflection will show that the reply is this: *there would be no falsity in such modes of speech. They would involve a modification of our present usage of speech with regard to the words hard and soft, but not of their meanings. For they represent no fact to be different from what it is; only they involve arrangements of facts which would be exceedingly maladroit.* This leads us to remark that the question of what would occur under circumstances which do not actually arise is not a question of fact, but only of the most perspicuous arrangement of them. For example, the question of free-will and fate in its simplest form, stripped of verbiage, is something like this: I have done something of which I am ashamed; could I by an effort of the will, have resisted the temptation, and done otherwise? The philosophical reply is, that this is not a question of fact, but only of the arrangement of facts. Arranging them so as to exhibit what is particularly pertinent to my question—namely, that I ought to blame myself for having done wrong—it is perfectly true to say that, if I had willed to do otherwise than I did, I should have done otherwise. On the other hand, arranging the facts so as to exhibit another important consideration, it is equally true that, when a temptation has once been allowed to work, it will, if it has a certain force, produce its effect, *let me struggle how I may.* *There is no objection to a contradiction in what would result from a false supposition. The reductio ad absurdum consists in showing that contradictory results would follow from a hypothesis which is consequently judged to be false.* Many questions are involved in the free-will discussion, and I am

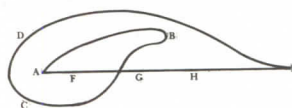
far from desiring to say that both sides are equally right. On the contrary, I am of opinion that one side denies important facts, and that the other does not. But what I do say is, that the above single question was the origin of the whole doubt; that, had it not been for this question, the controversy would never have arisen; and that this question is perfectly solved in the manner which I have indicated.

Let us next seek a clear idea of Weight. This is another very easy case. To say that a body is heavy means simply that, in the absence of opposing force, it will fall. This (neglecting certain specifications of how it will fall, etc., which exist in the mind of the physicist who uses the word) is evidently the whole conception of weight. It is a fair question whether some particular facts may not *account* for gravity; but what we mean by the force itself is completely involved in its effects.

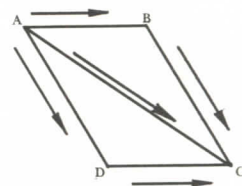
This leads us to undertake an account of the idea of Force in general. This is the great conception which, developed in the early part of the seventeenth century from the rude idea of a cause, and constantly improved upon since, has shown us how to explain all the changes of motion which bodies experience, and how to think about all physical phenomena; which has given birth to modern science, and changed the face of the globe; and which, aside from its more special uses, has played a principal part in directing the course of modern thought, and in furthering modern social development. It is, therefore, worth some pains to comprehend it. According to our rule, we must begin by asking what is the immediate use of thinking about force; and the answer is, that we thus account for changes of motion. If bodies were left to themselves, without the intervention of forces, every motion would con-

tinue unchanged both in velocity and in direction. Furthermore, change of motion never takes place abruptly; if its direction is changed, it is always through a curve without angles; if its velocity alters, it is by degrees. The gradual changes which are constantly taking place are conceived by geometers to be compounded together according to the rules of the parallelogram of forces. If the reader does not already know what this is, he will find it, I hope, to his advantage to endeavor to follow the following explanation; but if mathematics are insupportable to him, pray let him skip three paragraphs rather than that we should part company here.

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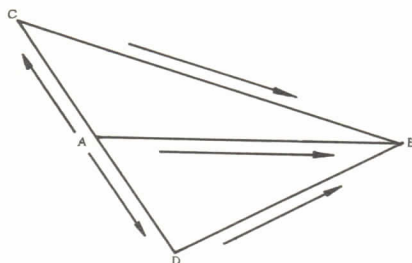


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A *path* is a line whose beginning and end are distinguished. Two paths are considered to be equivalent, which, beginning at the same point, lead to the same point. Thus the two paths, A B C D E and A F G H E are equivalent. Paths which do *not* begin at the same point are considered to be equivalent, provided that, on moving either of them without turning it, but keeping it always parallel to its original position, when its beginning coincides with that of the other path, the ends also coincide. Paths are considered as geometrically added together, when one begins where the other ends; thus the path A E is conceived to be a sum of A B, B C,



C D, and D E. In the parallelogram of Fig. 4 the diagonal A C is the sum of A B and B C; or, since A D is geometrically equivalent to B C, A C is the geometrical sum of A B and A D.



5

All this is purely conventional. It simply amounts to this; that we choose to call paths having the relations I have described equal or added. But, though it is a convention, it is a convention with a good reason. The rule for geometrical addition may be applied not only to paths, but to any other things which can be represented by paths. Now, as a path is determined by the varying direction and distance of the point which moves over it from the starting-point, it follows that anything which from its beginning to its end is determined by a varying direction and a varying magnitude is capable of being represented by a line. Accordingly, *velocities* may be represented by lines, for they have only directions and rates. The same thing is true of *accelerations* or changes of velocities. This is evident enough in the case of velocities; and it becomes evident for accelerations if we consider that precisely what velocities are to positions—namely, states of change of them—that accelerations are to velocities.

The so-called “parallelogram of forces” is simply a rule for compounding accelerations. The rule is, to represent the accelerations by paths, and then to geometrically add the paths. The geometers, however, not only use the “parallelogram of forces” to compound different accelerations, but also to resolve one acceleration into a sum of several. Let A B (Fig. 5) be the path which represents a certain acceleration—say, such a change in the motion of a body that at the end of one second the body will, under the influence of that change, be in a position different from what it would have had if its motion had continued unchanged such that a path equivalent to A B would lead from the latter position to the former. This acceleration may be considered as the sum of the accelerations represented by A C and C B. It may also be considered as the sum of the very different accelerations represented by A D and D B, where A D is almost the opposite of A C. And it is clear that there is an immense variety of ways in which A B might be resolved into the sum of two accelerations.

After this tedious explanation, which I hope, in view of the extraordinary interest of the conception of force, may not have exhausted the reader's patience, we are prepared at last to state the grand fact which this conception embodies. This fact is that if the actual changes of motion which the different particles of bodies experience are each resolved in its appropriate way, each component acceleration is precisely such as is prescribed by a certain law of Nature, according to which bodies in the relative positions which the bodies in question actually have at the moment,<sup>1</sup> always receive certain accelerations, which, being compounded by

<sup>1</sup> Possibly the velocities also have to be taken into account.

geometrical addition, give the acceleration which the body actually experiences.

This is the only fact which the idea of force represents, and whoever will take the trouble clearly to apprehend what this fact is, perfectly comprehends what force is. *Whether we ought to say that a force is an acceleration, or that it causes an acceleration, is a mere question of propriety of language, which has no more to do with our real meaning than the difference between the French idiom "Il fait froid" and its English equivalent "It is cold."* Yet it is surprising to see how this simple affair has muddled men's minds. In how many profound treatises is not force spoken of as a "mysterious entity," which seems to be only a way of confessing what the author despairs of ever getting a clear notion of what the word means! In a recent admired work on "Analytic Mechanics" it is stated that we understand precisely the effect of force, but what force itself is we do not understand! This is simply a self-contradiction. The idea which the word force excites in our minds has no other function than to affect our actions, and these actions can have no reference to force otherwise than through its effects. Consequently, if we know what the effects of force are, we are acquainted with every fact which is implied in saying that a force exists, and there is nothing more to know. The truth is, there is some vague notion afloat that a question may mean something which the mind cannot conceive; and when some hair-splitting philosophers have been confronted with the absurdity of such a view, they have invented an empty distinction between positive and negative conceptions, in the attempt to give their non-idea a form not obviously nonsensical. The nullity of it is sufficiently plain from the considerations given a few pages back; and, apart from these

considerations, the quibbling character of the distinction must have struck every mind accustomed to real thinking.

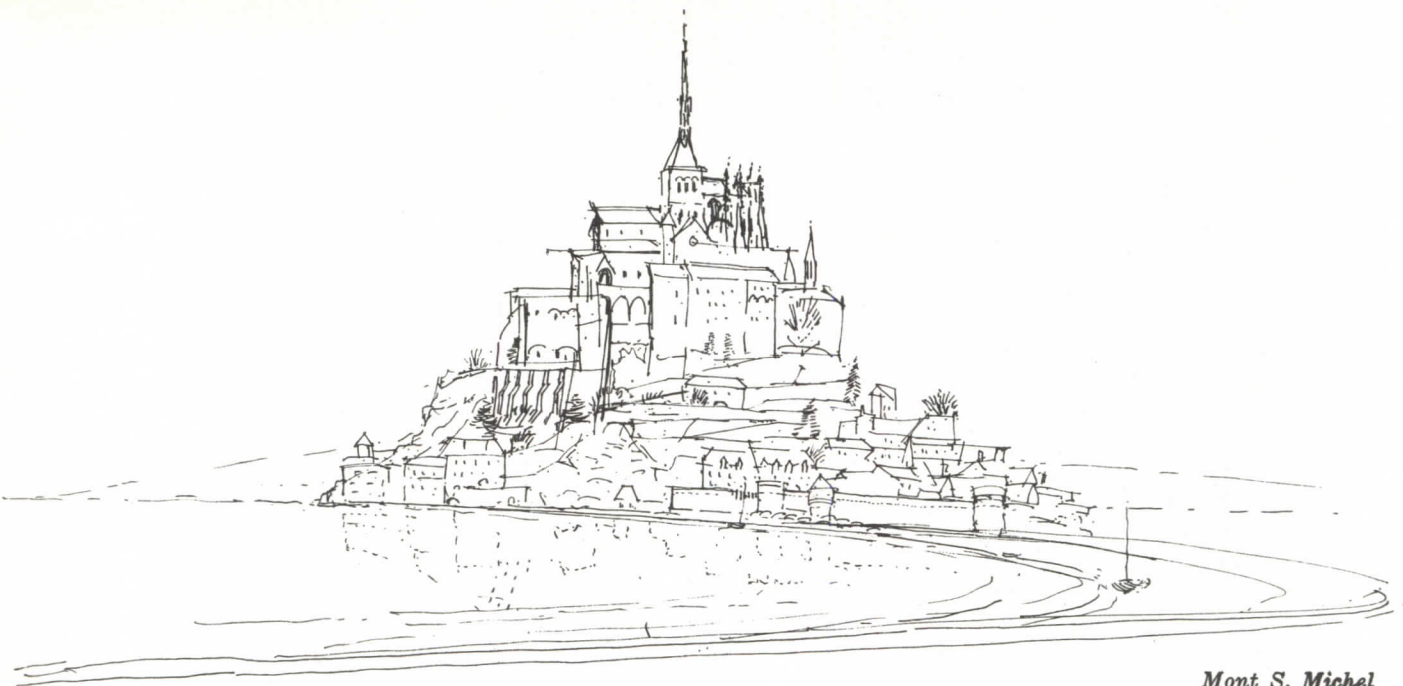
**IV** Let us approach the subject of logic, and consider a conception which particularly concerns it, that of *reality*. Taking clearness in the sense familiarity, no idea could be clearer than this. Every child uses it with perfect confidence, never dreaming that he does not understand it. As for clearness in its second grade, however, it would probably puzzle most men, even among those of a reflective turn of mind, to give an abstract definition of the real. Yet such a definition may perhaps be reached by considering the points of difference between reality and its opposite, fiction. A *figment* is a product of somebody's imagination; it has such characters as his thought impresses upon it. That whose characters are independent of how you or I think is an *external reality*. There are, however, phenomena within our own minds, dependent upon our thought, which are at the same time real in the sense that we really think them. But though their characters depend on how we think, they do not depend on what we think those characters to be. Thus, a dream has a real existence as a mental phenomenon, if somebody has really dreamt it; that he dreamt so and so, does not depend on what anybody thinks what dreamt, but is completely independent of all opinion on the subject. On the other hand, considering, not the fact of dreaming, but the thing dreamt, it retains its peculiarities by virtue of no other fact than that it was dreamt to possess them. *Thus we may define the real as that whose characters are independent of what anybody may think them to be.*

But, however satisfactory such a definition may be found, it would be a great mistake



to suppose that it makes the idea of reality perfectly clear. Here, then, let us apply our rules. According to them, **reality, like every other quality, consists in the peculiar sensible effects which things pertaking of it produce.** The only effect which real things have is to cause belief, for all the sensations which they excite emerge into consciousness in the form of beliefs. The question therefore is, how is true belief (or belief in the real) distinguished from false belief (or belief in fiction). Now, as we have seen in the former paper, the ideas of truth and falsehood, in their full development, appertain exclusively to the scientific method of settling opinion. A person who arbitrarily chooses the propositions which he will adopt can use the word truth only to emphasize the expression of his determination to hold on to his choice. Of course, the method of tenacity never prevailed exclusively; reason is too natural to men for that. But in the literature of the dark ages we find some fine examples of it. When Scotus Erigena is commenting upon a poetical passage in which Hellebore is spoken of as having caused the death of Socrates, he does not hesitate to inform the inquiring reader that Helleborus and Socrates were two eminent Greek philosophers, and that the latter having been overcome in argument by the former took the matter to heart and died of it! What sort of an idea of truth could a man have who could adopt and teach, without the qualification of a perhaps, an opinion taken so entirely at random? The real spirit of Socrates, who I hope would have been delighted to have been "overcome in argument," because he would have learned something by it, is in curious contrast with the naive idea of the glossist, for whom discussion would seem to have been simply a struggle. When philosophy began to awake from its long slumber, and before theology

completely dominated it, the practice seems to have been for each professor to seize upon any philosophical position he found unoccupied and which seemed a strong one, to intrench himself in it, and to sally forth from time to time to give battle to the others. Thus, even the scanty records we possess of those disputes enable us to make out a dozen or more opinions held by different teachers at one time concerning the question of nominalism and realism. Read the opening part of the "Historia Calamitatum" of Abelard, who was certainly as philosophical as any of his contemporaries, and see the spirit of combat which it breathes. For him, the truth is simply his particular stronghold. When the method of authority prevailed, the truth meant little more than the Catholic faith. All the efforts of the scholastic doctors are directed toward harmonizing their faith in Aristotle and their faith in the Church, and one may search their ponderous folios through without finding an argument which goes any further. It is noticeable that where different faiths flourish side by side, renegades are looked upon with contempt even by the party whose belief they adopt; so completely has the idea of loyalty replaced that of truth-seeking. Since the time of Descartes, the defect in the conception of truth has been less apparent. Still, *it will sometimes strike a scientific man that the philosophers have been less intent on finding out what the facts are, than on inquiring what belief is most in harmony with their system.* It is hard to convince a follower of the *a priori* method by adducing facts; but show him that an opinion he is defending is inconsistent with what he has laid down elsewhere, and he will be very apt to retract it. *These minds do not seem to believe that disputation is ever to cease; they seem to think that the opinion which is natural for one man is not so for another,*



*Mont S. Michel*

and that belief will, consequently, never be settled. In contending themselves with fixing their own opinions by a method which would lead another man to a different result, they betray their feeble hold of the conception of what truth is.

On the other hand, all the followers of science are fully persuaded that the processes of investigation, if only pushed far enough, will give one certain solution to every question to which they can be applied. One man may investigate the velocity of light by studying the transits of Venus and the aberration of the stars; another by the oppositions of Mars and the eclipses of Jupiter's satellites; a third by the method of Fizeau; a fourth by that of Foucault; a fifth by the motions of the curves of Lissajoux; a sixth, a seventh, an eighth, and a ninth, may follow the different methods of com-

paring the measures of statical and dynamical electricity. They may at first obtain different results, but, as each perfects his method and his processes, the results will move steadily together toward a destined centre. So with all scientific research. *Different minds may set out with the most antagonistic views, but the progress of investigation carries them by a force outside of themselves to one and the same conclusion.* This activity of thought by which we are carried, not where we wish, but to a foreordained goal, is like the operation of destiny. No modification of the point of view taken, no selection of other facts for study, no natural bent of mind even, can enable a man to escape the predestinate opinion. This great law is embodied in the conception of truth and reality. **The opinion which is fated<sup>2</sup> to be ultimately agreed to by all who investigate, is what we**



mean by the truth, and the object represented in this opinion is the real. That is the way I would explain reality.

*But it may be said that this view is directly opposed to the abstract definition which we have given of reality, inasmuch as it makes the characters of the real to depend on what is ultimately thought about them. But the answer to this is that, on the one hand reality is independent, not necessarily of thought in general, but only of what you or I or any finite number of men may think about it; and that, on the other hand, though the object of the final opinion depends on what that opinion is, yet what that opinion is does not depend on what you or I or any man thinks. Our perversity and that of others may indefinitely postpone the settlement of opinion; it might even conceivably cause an arbitrary proposition to be universally accepted as long as the human race should last. Yet even that would not change the nature of the belief, which alone could be the result of investigation carried sufficiently far; and if, after the extinction of our race, another should arise with faculties and disposition for investigation, that true opinion must be the one which they would ultimately come to. "Truth crushed to earth shall rise again," and the opinion which would finally result from investigation does not depend on how anybody may actually think. But the reality of that which is real does depend on the real fact that investigation is destined to lead, at last, if continued long enough, to a belief in it.*

But I may be asked what I have to say to all the minute facts of history, forgotten never to be recovered, to the lost books of the ancients, to the buried secrets.

<sup>2</sup> Fate means merely that which is sure to come true, and can nohow be avoided. It is a superstition to suppose that a certain sort of events are ever fated, and it is another to suppose that the word fate can never be freed from its superstitious taint. We are all fated to die.

"Full many a gem of purest ray serene  
The dark, unfathomed caves of ocean bear;  
Full many a flower is born to blush unseen,  
And waste its sweetness on the desert air."

Do these things not really exist because they are hopelessly beyond the reach of our knowledge? And then, after the universe is dead (according to the prediction of some scientists), and all life has ceased forever, will not the shock of atoms continue though there will be no mind to know it? To this I reply that, *though in no possible state of knowledge can any number be great enough to express the relation between the amount of what rests unknown to the amount of the known, yet it is unphilosophical to suppose that, with regard to any given question (which has any clear meaning), investigation would not bring forth a solution of it, if it were carried far enough.* Who would have said, a few years ago, that we could ever know of what substances stars are made whose light may have been longer in reaching us than the human race has existed? Who can be sure of what we shall not know in a few hundred years? Who can guess what would be the result of continuing the pursuit of science for ten thousand years, with the activity of the last hundred? And if it were to go on for a million, or a billion, or any number of years you please, how is it possible to say that there is any question which might not ultimately be solved?

*But it may be objected, "Why make so much of these remote considerations, especially when it is your principle that only practical distinctions have a meaning?" Well, I must confess that it makes very little difference whether we say that a stone on the bottom of the ocean, in complete darkness, is brilliant or not—that is to say, that it probably makes no difference, remembering*

*always that that stone may be fished up tomorrow. But that there are gems at the bottom of the sea, flowers in the untraveled desert, etc., are propositions which, like that about a diamond being hard when it is not pressed, concern much more the arrangement of our language than they do the meaning of our ideas.*

It seems to me, however, that we have, by the application of our rule, reached so clear an apprehension of what we mean by reality, and of the fact which the idea rests on, that we should not, perhaps, be making a pretension so presumptuous as it would be singular, if we were to offer a metaphysical theory of existence for universal acceptance among those who employ the scientific method of fixing belief. However, as metaphysics is a subject much more curious than useful, the knowledge of which, like that of a sunken reef, serves chiefly to enable us to keep clear of it, I will not trouble the reader with any more Ontology at this moment. I have already been led further into that path than I should have desired; and I have given the reader such a dose of mathematics, psychology, and all that is most abstruse, that I fear he may already have left me, and that

what I am now writing is for the compositor and proof-reader exclusively. I trusted to the importance of the subject. *There is no royal road to logic, and really valuable ideas can only be had at the price of close attention.* But I know that in the matter of ideas the public prefer the cheap and nasty; and in my next paper I am going to return to the easily intelligible, and not wander from it again. The reader who has been at the pains of wading through this month's paper, shall be rewarded in the next one by seeing how beautifully what has been developed in this tedious way can be applied to the ascertainment of the rules of scientific reasoning.

We have, hitherto, not crossed the threshold of scientific logic. It is certainly important to know how to make our ideas clear, but they may be ever so clear without being true. How to make them so, we have next to study. **How to give birth to those vital and procreative ideas which multiply into a thousand forms and diffuse themselves everywhere advancing civilization and making the dignity of man, is an art not yet reduced to rules, but of the secret of which the history of science affords some hints.**





*S. Maria della Salute*

Joseph Hudnut

## Architect & Engineer

Dean Emeritus of Harvard School of Design. Established the first school of modern architecture in the United States at Harvard, 1935. Author: *Modern Sculpture*, 1929; *Architecture and the Spirit of Man*, 1950.

Horatio Greenough, writing in the year 1843, discovered in the image of a ship at sea the functional principle which since then has haunted the architecture of our era. A ship, he said, is shaped neither by authority nor by tradition, neither by sentiment nor by sympathy; it obeys in its pattern only the laws of structure and apportionment; and yet beauty, obedient only to the hand of the craftsman, rides uninvited on its swift exultant sails.

"Observe a ship at sea! Mark the majestic form of her hull as she rushes through the water, . . . the gentle transitions from round to flat, the grasp of her keel, the leap of her bows, the symmetry and rich tracery of her spars and rigging, and those grand wind muscles, her sails . . . What academy of design, what research of connoisseurship, what imitation of the Greeks produced this marvel of construction? . . . Could we carry into our civil architecture the responsibilities that weigh upon ship building, we should ere long have edifices as superior to the Parthenon. . . ."

Horatio Greenough, being a man of too good sense to ride his doctrine into an absurdity, is careful to explain that ships—and by implication buildings—are not made beautiful by necessity. Beauty, he tells us, is the consequence of a way of working. As a part of those processes by which materials are assembled, shaped, and arranged for use there are, or there might be, progressions towards beauty: progressions guided, not by academic law, but by the practical responsibilities laid upon the makers. Beginning with

The following speech was delivered at the 46th Annual Meeting of the North Carolina Chapter of the American Institute of Architects, January 1960.



straggling and cumbersome conceptions the engineer develops through successive stages of improvement a complete and effective engine. The redundant is pared away, the superfluous is dropped, the necessity itself reduced to its simplest terms until, the task completed, beauty, until then veiled, springs unsolicited into his pragmatic arms.

The source of beauty, then, is not necessity but a disciplined order in which necessity is exhibited. Beauty resides in an express and visible agreement and mutual operation—precise, subtle and urgent—of mechanical shapes and powers: in the grasp of a keel, in the pull of riggings, in the forward thrust of sails, and in that consonance of energies which these display. Beauty, solace and ornament of life, has her birth, not like Aphrodite spewed up from the sea for the delight of a precious and remote elite, but as a very part of that conquest of nature which engages the rigorous mind of our day.

This conception, which after a hundred years commands the imaginations of our architects—this conception, so opposite to the traditions of architecture, so inimical to the evaluations of our ancient practice—gains its command, not from the speculations of philosophers in which it originated, but from that new climate of opinion and practice into which architecture has prolonged its life. Its authority lies outside architecture. Persuaded of a biological law constant for both man and nature and ravished by technological achievement, we conceive all things made by man as little more than the mechanisms of his comfort and security; and it is only when we perceive in such mechanisms a clear affirmation of that ministry, when we have recognized in them our own effective and exquisite control, that we endow them with that ethereal quality, drawn from a

sphere outside their own, which we call beauty.

Thus the significance of the things we make, their content as human document and witness, escapes us. Our airplanes cannot possess the sky until we have first understood the pressures of their propellers against the wind, the suspense of their wings above the earth, the response of the fuselage to the divided air. Our highways, which tie together the loose ends of our continent, cannot invite us to the adventure of their distant horizons until we have recognized the ways in which they proceed over causeway, defile, and viaduct and through the unravelings of double, triple, and quadruple pretzels. And even those dread engines of war which crush the mountains under their weight of steel give us no hint of the anguish, terror, and insanity they spread over the earth until we have noted the bite of their great tractors, the rage of their imprisoned engines, and the slow arc of their long cannon as these seek their targets. The grandeur of our inventions, their meanings and their depths, await alike the approval of the rational imagination.

How then should it be otherwise with those qualities of sensuous grace and sentiment, of formal harmony and human reference, which, when they occurred in buildings, we once called beauty? These too must await our understandings of instrumental values and surprise us by their alien presence. These are uninvited guests so rightly under suspicion that if by chance we *should discover* Aphrodite herself within our calculated halls we should not look into her lustrous eyes until we had first assured ourselves of her biological excellence.

Thus it happens that buildings, promoted to the rank of machines, take their places in the bright world of airplanes, hydrogen

bombs, and the concrete mountains that impound the rivers of Tennessee. Buildings, like these, must speak to us first of the work they mean to perform and the means by which it will be performed, of the materials used and the ways they will be put together, before we will acknowledge their beauty. Sunsets are beautiful for their changing fantasies of color and light; music is beautiful for its pure and moving patterns; poetry for the echoes it awakens in our hearts; but buildings are not beautiful until they tell us, explicitly and without delay, the ways in which they serve.

It will not be denied that there are satisfactions, not unlike aesthetic satisfactions, to be discovered beneath a precise and manifest order, whether the order be one of ideas, or movements, of material substances. A mathematical theorem existing only in the mind, a fugue not yet translated into symbol or sound, may give us a keen and sensuous pleasure; and a building which represents nothing more than a landscape of utility, a machine addressed only to efficient production, may yet delight us by its reasonable structure, its co-ordinated and stately movements. And our minds, always in search of order, may give that delight one of the many-splendored meanings of the word beauty.

A new hospital is built beside the Hudson River in which the architect has achieved that diagrammatical beauty by the simple expedient of giving each element of his building its characteristic shape and countenance. A sixteen-story slab (most youthful and most favored child of functionalism) faces south and clearly announces in the monotony of its fenestration the uniform wards of the patients. A smaller unit, appropriately more conventional in shape, spells administration; another, embroidered with balconies, betrays a humane solicitude for the nurses who live there. Such buildings, however encrusted

with the caprices of Le Corbusier, often win by the good sense with which they are steeped. No less an authority than Jacques-Francois Blondel, first among the high priests of neo-classicism, included good sense among those characteristics which make buildings beautiful.

The beauty in works of engineering almost always rests upon this somewhat facile premise. Engineers do not always have more sense than architects but their more forthright art permits a more vigorous exposition of that excellent ingredient. The Whitestone Bridge exhibits its calculated sense, its conscious grace, like a nude Venus.

We are aware of giant energies in the steel towers which lift their long ribbons above the sea; we feel the pull of the concrete anchors like athletes in a tug-of-war; we follow in our minds the mobile traffic along the suspended roadway. Knowing that harmony of steel and purpose, held before us in a pattern so discriminating of materials and tensions, so completely dedicated to the end to be achieved, we can scarce fail to discover in it an order of dignity and reason. We should be dull indeed if we did not acknowledge its beauty also.

Our architecture is enriched by the importance which recent practice has given to this analytical delight, but it would be a pity if a delight thus built on the uncertain base of technological knowledge were to continue in a course so absolute as to forever impoverish our art of all other architectural excellence. We ought at any rate to be aware of that impoverishment. However right we have been to bring to the judgment of architecture this reasonable satisfaction in functional pattern, yet that satisfaction, if it reconciles us to the loss of formal beauty in buildings, if it exiles from architecture all sentiment and romantic escape, if it denies to buildings



their ancient role as interpreters of the human spirit, it may be brought at too high a price. The saints who renounce the splendors of the world to seek in deserts the contemplation of divine mysteries know at least that which they renounce. The time has come for a re-examination of values.

In recorded history our era is the first to accept an engineer's aesthetic as an ideal of architecture. That is—or should be—an arresting circumstance. We are the first to make structural expression a prerequisite of aesthetic experience, the first to conceive buildings as products of industry, to first explain buildings with analogies drawn from machines and ships, the first to ignore their role as humanities beside poems and paintings, the first to harvest from the social sciences a philosophy with which to destroy a tradition of art.

Until our time the exhibition of structure was, with rare exceptions, an end subordinate in architecture to the achievement of expressive form: of form conceived, not as a logical relationship, but as that unification and harmony of sensuous elements which gave buildings the character of a language. Form, as thus defined, was the supreme aim in the metier of the architect as it was in the metiers of painter and musician. To determine in buildings the character and relationship of mass and space; to arrange and distribute plane, line, silhouette, color, light, and shade; to place each part in rapport with every other part; to emphasize, suppress, distort; and by all of these means to imprison an order of ideas within a visible pattern and unity—these were the unique and prescriptive exercises of an architect. Whatever may have been his dependence upon physical law, whatever his compromises with necessity, it was this freedom and command which were the essentials of the architect's way of working.

An architect was an artist to the extent of this freedom and command.

Certainly the Greeks—who may be said to have invented architecture—never submitted their art to the tyrannies of structure and use. The harmonies they imposed upon stone and space were not calculated but felt. The Romans continued and developed that principle and the architects of the Renaissance, taught by the Romans, confirmed and enriched the antique practice with a stated philosophy of form. The Gothic builders, addressing their art to more ethereal and luminous harmonies, invented for that purpose new techniques of construction—and veiled these along the sides of the cathedral under mists of pinnacle and saint. The resourcefulness of their invention and their concern with the logic of stone construction did not prevent them from attenuating and lengthening their piers and arches to the point of collapse; to the point where, at Beauvais, they did collapse. And we know only too well how the nineteenth century disguised both Renaissance philosophy and medieval mysticism under the rainbow tints of romance—radiances which, by the way, are only with great difficulty eradicated from the idea of shelter. Only the architects of the present have looked in structure for a secret of architectural form. At a time when all the other arts of expression — painting, sculpture, letters, music, and the dance—have triumphantly reasserted the supremacy of form over objective and representational truth, when the language of art is universally a language of protest against a common experience of mechanization, standardization, and mass production, only architects rejoice in a realism as rigorous — and as anatomical — as that of Bouguereau.

No doubt we are in a greater degree than other artists conditioned by the machine, by

the scope and speed of new technologies, by social change and valuations, and by that general mind whose tyrannies architects constantly encounter. No doubt we are more disciplined to that way of seeing and thinking which gives precedence to science and which has become the universal mode of thought in our time. There is laid upon us also—by a philosophy somewhat excessively sadistic—the duty of expressing our civilization, a duty which until our time architects regarded with a surprising nonchalance. It may also be said that in the exercise of architecture, an art more firmly anchored in life than any other, we are oppressed by economic and political circumstances which weigh less heavily upon painter and musician.

These causes (whatever they may be) have clearly brought about clear distinctions, not only between our architecture and the architectures which preceded it, but between the currents of our architecture and those of the contemporary arts. We are engineers who address science, not to form—to the “masterly, correct and magnificent play of masses brought together in the light”—but to the exhibition of an order of energy and purpose. Our engineer’s order follows its own principle, commands in its own way our vision, our interest and imagination, and arrives at its own beauty; but these are not the principle, the command or the beauty of architecture in its great traditions.

How shall we determine the relative validity of these two types of excellence to each of which we give the name beauty? To distinguish them from one another and to define their opposed characteristics is not to pass judgment upon them; nor should it be assumed that they cannot be reconciled. What is important is that we should understand them. And if we are to understand them who shall be our mentor?

If our mentor is history we shall find that historical valuations are always relative to time and circumstance. If our mentor is the suffrage of the people we shall find a new opinion with each change of the wind; if the suffrage of philosophers, we shall find no one of them who does not fit our neglected art awkwardly into some equivocal corner of his cosmic theory. Nor shall we find in that literature of architecture which clouds our own time any more enlightenment than can be drawn from controversy and reiterated dogma. We are firm in our theories but we seldom take the trouble of supporting them with logic. We are carried forward as on a ship at sea by the rhetoric of Horatio Greenough and yet he does not consent to tell us—except as it dispels the enchantments of the Greeks—why the method of the architect should be that of the shipwright. The moral philosophy of Viollet-le-Duc destroys the false academy at which it was directed but his analogies of architecture and nature remain analogies; nor have these analogies found a more persuasive basis in the massive self-confidence of Wright and Le Corbusier.

I cannot resolve a question which has occupied so many brave and subtle minds; but I should like to invite both architecture and engineer to reconsider, not as a revelation from heavenly powers, but as a subject for rational inquiry, the concept of form—of form as conceived in history—as a necessity not less urgent, perhaps much more urgent, than that which sanctions the doctrine of functional truth.

In the midst of a nature having no knowledgeable design men have built for themselves across the centuries the patterns of experience that we call civilizations. In these the principle of order is form: the reconciliation and balance of interests, customs and



powers, of thought and emotion, of science and mystery which sustains the life of mankind. It may be, then, that form, a concept which thus lies beyond the boundaries of art, is a means which renders architecture harmonious to these vast enterprises of the spirit.

We have sought out many devices by which we might overcome the hostile circumstances of our environment. We struggle against a nature to which we have never become acclimated: against cold, disease and accident, against the eccentricities of our desires and our emotions, against the contentions of life and death. Yet against none of these is our warfare so fierce, so long continued or so precarious as that which we wage against the whirling confusions of our knowledge. The world as it comes to us through our seven senses—and through the twenty additional senses with which the sciences have provided us—is a vast and arduous disorder, a tumult of light and darkness, of good and evil, of laughter and despair. It presses upon us void of direction or meaning, its weight almost too heavy to be endured. Therefore we have built within its ever-changing tangle a world of our own, congenial to our desire. The form we have given this new world is our wish fulfilled.

The arts exist to clarify and intensify our hope of that fulfillment. They confirm by experience of form our faith in form, repeating in innumerable patterns of thought and conduct the greater form which surrounds and channels all of us. They say to us, each in its own language: "Every ordering of experience, each an element in your civilization, is transfigured by our ministry. From us these receive a beauty which confirms their origin in the spirit of man, a voicing of inward meanings which reassure and fortify that

spirit in its eternal struggle with the corruptions of the world."

Form in architecture is such an affirmation pronounced in the language of steel and space. Form in architecture is not an academic concept imposed upon buildings in the name of scholarship or taste. Form is not an imitation of the Greeks. Form in architecture, a harmonious ordering and interplay of felt and visual elements, is one of the ways in which the dignity and worthiness of man is impressed upon his environment. Form in architecture is a denial of chaos and insignificance in the universe around us. It is that denial that gives architecture its power and its radiance.

It was through form and not through concrete construction that the grandeur of Rome entered into and possessed the Forum. It was through form and not through pointed arch and ribbed vault that the Celestial City irradiated the Gothic cathedral. It was through form that the houses built along the James River captured the life of colonial Virginia: their prim symmetry, their studied reticence, their careful ornament were only the outward show of that stately content. The formlessness of Stuyvesant Town will not assist those who live in the shadows of its grim standardizations to persevere in their intuitions of human dignity.

In all of its supreme achievements it is form which lifts architecture out of its many parochial roles and on to the stage of the universe where it is one with all the arts of expression. A symphony by *Brahms*, a garden by LeNotre, a tragedy by Shakespeare—are not these architecture? They, too, are fulfillments of our deepest and ever-present desire. We walk in these ethereal halls as Aladdin walked in his palace, indwelling and sovereign; nor are we vexed to learn that each artist, in order to attain that end,

has permitted us to forget some factual circumstance.

I do not question the value of that realism and vitality which the architect has drawn from the practice of the engineer. I question, rather, the arbitrary authority over architecture which this practice has attained. We are too resolute to affirm the death of scholarship in our art, too absolute in the renunciation of our hearts. A confession of mystery in our churches, of grandeur in the United Nations, would not be unbecoming even to steel and concrete; nor would a touch of romance be wholly inconsistent to houses intended as the *mis-en-scenes* of love.

Science and art confront each other in architecture as they confront each other in every phase of modern life: unlike in spirit and in their valuations, divided by uncertain boundaries, and without a common reference. They have little experience of each other. In that sense architecture is a stage upon which there is rehearsed one of the most fateful antagonisms of all time. It may happen that architects must soon declare their allegiance.

I should like now to return to that ship which so many years ago filled with delight the classical mind of Horatio Greenough. That ship was indeed shaped by the requirements of its functions. The prow was pointed to divide the waters, the sails were rounded to invite the winds, the timbers stoutly

framed to resist the seige of the waves and all of these rightly deserved the admiration of all who found beauty in rational order and in the wonder of great accomplishment.

Nevertheless there was a beauty in the ship not compounded of these, nor were the gifts which these offered to the inquiring mind prohibitive of gifts which the heart might seize upon. The anonymous art of shipbuilding, long practiced in New England, had transfigured the utilitarian pattern of this ship with the infinite subtleties of its tradition. The shipwright was a sculptor when he modeled the careful transitions of the hull, an engraver when he etched against the sky the rhythmic latticings of riggings, mast, and spar, a musician when he evoked the songs of the wind and rain in the progressions of his arched sails. Technician and master-artist, the shipwright bathes his technological masterpiece in an art of form.

Nature, always ready to conspire with art, then set technology and art dancing together in the arms of the changing sea and against the infinities of the sky; and to that beauty there was added also the tender beauty of human relevance. The ship, rational mechanism and senuous ecstasy, did not disdain the beauty of romance: of adventure shared in distant ports, of dangers and hardships endured together, of homecoming and reunion promised and rehearsed, of the enterprise and faith of men who travel illimitable seas.





*La Sagrada Família*

Sir Herbert Read

## The Aesthetics of Architecture

Sir Herbert Read, British poet, scholar, and critic, has taught and lectured widely in this country and abroad. Following the First World War he held a ten year appointment to the Victoria and Albert Museum in London where he specialized in ceramics and stained glass. Later he spent a year at Trinity College of Cambridge University to give the Clark Foundation lectures in 1929-30. He then became Professor of Art at Edinburgh University and subsequently taught at the University of Liverpool. In 1940 he was appointed for two years to the University of London as a Leon Fellow. In the United States he held the position of Charles Eliot Norton Professor at Harvard University in 1953-54. Sir Herbert has written extensively, poetry, art history, criticism. His latest work is *A Concise History of Modern Painting*; it is a penetrating analysis of the various artistic movements which followed Cezanne. Another book recently published in England is *The Forms of Things Unknown, Essays Towards An Aesthetic Philosophy*.

In order to keep this very large subject within the scope of a lecture, we might begin by eliminating certain general aspects of aesthetics to which all the arts make their individual contributions—for example, the concept of beauty itself, which works of the architect may illustrate but cannot in themselves define. I shall also leave out of account all theories of style, for style is a variable element in the history of art due to personal or social factors—"the constant form", as Meyer Schapiro has defined it, "in the art of an individual or a group." I do not pretend that one can separate the problem of style from aesthetics, but the aesthetics of a particular art like architecture are determined by what is peculiar to that art, namely, its materials and functions. We find no difficulty in establishing a subject called "poetics" for the art of poetry, but the only parallel word to describe our subject, "tectonics", does not possess the same theoretical connotation: it generally implies structural principals rather than aesthetic values, and is therefore not inclusive enough for my purpose. Tectonics is derived from the Greek word for a carpenter, and the underlying implication (as in all Greek terminology for the arts) is that of a craft. Wisely or unwisely, modern aesthetics has made a categorical distinction between art and craft, and I propose to observe this distinction, and to justify it as I proceed.

I have already discussed in my book on *The Art of Sculpture* the significant fact that in their beginnings certain forms of architecture and of sculpture are identical;



that is to say, in so far as sculpture aspires to monumentality, and in so far as architecture aspires to symbolic meaning and durability, the two arts make common use of the same material, stone, and endow this material with identical plastic values. The perfect demonstration of this unity is found in certain Indian temples carved out of rock, and there are many examples of monumental sculpture, from the Pyramids in Egypt to the Victor Emmanuele monument in Rome, that are essentially architectural in effect. But this is perhaps no more significant than the fact that the epic and the lyric make use of the same language; just as these are both aspects of poetics, so architecture and monumental sculpture are both aspects of tectonics.

In so far as the aesthetics of the specific art of architecture are based on the materials of the art—wood, stone, steel—we must seek for a principle in the nature of these materials; and in so far as aesthetics are determined by function or purpose (and we have not yet discussed the validity of such an assumption) we must seek for a principle in the appropriateness of the means to the end. Though both these principles are aspects of truth—truth to materials and truth to functions—there is no obvious connection between them, and we shall therefore be driven either to seek a compromise of some kind, or alternatively to establish a third principle which is commanding enough to resolve these separate principles in some single unifying concept of the art of architecture. I believe that such a concept does exist, but that we have largely lost sight of it in our preoccupation with materialism and functionalism.

Let us start with the obvious proposition that architecture has its origins as an artificial shelter from the elements. Such a shelter must have walls and a roof, but from the

beginning variations were possible. The building could be rectangular or round, high or low, wide or narrow; it could be built of wattles or wood, bricks or stones; the interior could be light or dark, cool or warm; the structure slight or solid. The choice among so many possibilities might be determined by purpose or climate, by the availability of the raw materials or the defendability of the site. Primitive architecture can be explained wholly by means of these material factors, and it has been maintained, by March Phillips for example, an important writer on the subject—that Egyptian art never escaped from these materialistic factors, that it was “a perpetuation of the primitive”, an art that “stops short always at the point where intellect should animate and inspire it.” Where *intellect should* animate and inspire it—there you have the introduction of a factor that is no longer materialistic, and that is imperative. Architecture, if it is to escape from the primitive, the childish, the archaic, must be inspired by considerations that are intellectual, abstract, spiritual—considerations that modify the strict requirements of utility.

I have no desire to question this basic theory: it has been stated with different emphases but essential agreement by every philosopher of art from Vitruvius to Winckelmann, by Semper, Ruskin, Lethaby, March Phillips, Worringer and Focillon. It is the eternally reiterated claim of spirit to inform matter, and art ceases to exist when that claim is refused. *Nevertheless, matter* is recalcitrant and only yields to a spirit capable of an intense and coherent vision. Aesthetics is the study of the conditions under which the materials of art are persuaded to accommodate an informing spirit. It has always been recognized that the Greek temple is the paradigm for this study, and in spite of all

that has been written about the subject, we cannot do better than return to that paradigm for an essential insight into the nature of the problem we are discussing.

Anyone who has visited the Doric temples in Greece, Italy or Sicily, and has been able to exclude the romantic feelings aroused by their forlorn isolation, must have had some difficulty in reconciling their architectural prestige with his modern conception of functionalism. Even as shrines of an arcane cult they must have been devoid of any internal logic; dark, crowded and oppressive. As architectural monuments they were designed for external effect, to be best seen and appreciated from a distance. The basic functional requirement of architecture, shelter from the elements, is therefore not in question. Another peculiarity, often noted for its technical interest, is the fact that they carry over into stone the posts and crossbeams of a primitive wooden structure not particularly suited to the new material. From a functional point of view they seem to be unintelligent imitations of a primitive method of building.

In fact, however, the Greek temples are increasingly sophisticated developments of a basic form, and what began as a utilitarian structure was gradually refined until it became a symbol for spiritual values. These values, when experienced in their coherence and wholeness, are known as beauty, but essentially they are formal quantities and can be expressed mathematically; we call them harmony, balance and symmetry. Greek architecture is an attempt to create a plastic image that, like Greek poetry or Greek music or Greek ceramics, expresses the idea that proportion is one of the highest values in human life,<sup>1</sup> and critics like Conrad Fiedler and March Phillips have rightly characterized

it as intellectual. Fiedler speaks of a long period of artistic stammering, a striving and struggling for the right expression until finally perfection is attained as a result of an association of the clarity of consciousness with the greatest force of thought. All the material elements of the structure are fused, as it were, into a purified image of harmonious form. He quotes Semper's axiom—Art invents nothing; and then asserts—'The Greeks invented nothing in their architecture, but developed only that which they received, and with such a clean awareness that they necessarily arrived at a result in which everything directly reminiscent of the demands of needs and wants, of the nature of the material used and of conditions of construction, had disappeared except for faint echoes.'<sup>2</sup>

March Phillips, in his great but neglected book, *The Works of Man*,<sup>3</sup> gives an even greater emphasis to the essentially intellectual nature of the Greek achievement. The most striking consequences of this intellectual bias and the limitations it imposed are to be found, he suggests, 'in the Greek love of the definite and in the Greek passion for definition. All that is clear-cut and articulate the Greek mind adores; all that is in the least vague and indeterminate it detests . . . (The Greeks), for the first time, exploited the idea of intellectual definition, and it soon followed that they would admit no thought which would not submit itself to definition.'

There is, however, some equivocation about this process of definition. March Phillips recalls that there are certain spiritual equalities that will not submit to definition—that Nature herself when endowed with an

<sup>2</sup> *On The Nature and History of Architecture* (Translated by various hands and privately printed by Victor Hammer) (Lexington, Kentucky, 1954) p. 19

<sup>3</sup> London, 1911, new edn. 1932

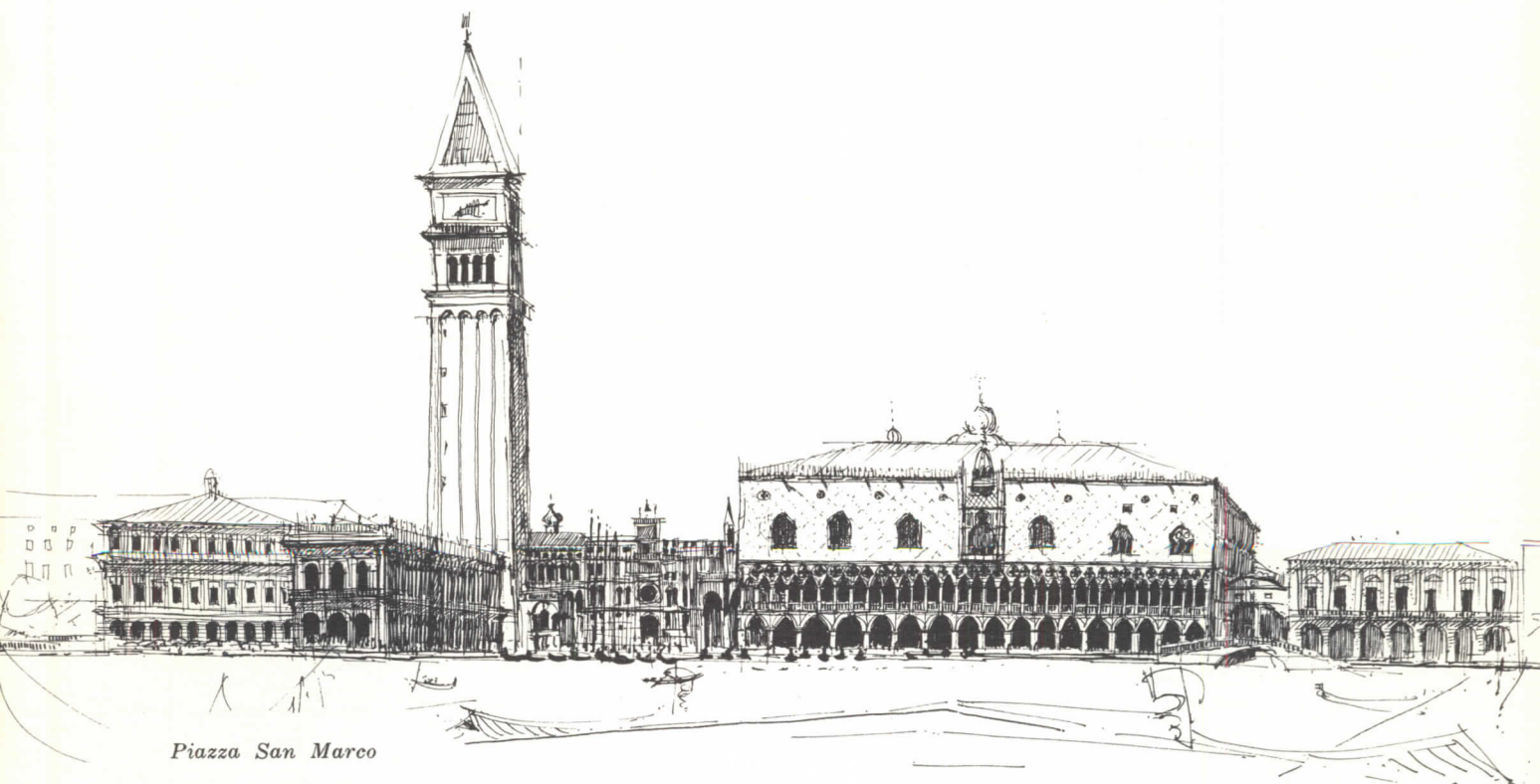
<sup>1</sup> Werner Oxford, 1946. Vol. I, p. 277



infinite significance 'becomes shrouded in a kind of mystery, and the thoughts and feelings she suggests do not admit of articulation and refuse to be exactly defined'. In this manner he raises a question about the cognitive status of art which he does not stop to answer. We are entitled to ask in what sense is a Greek temple a definition of ideas or concepts that a Gothic cathedral is not also a definition of ideas and concepts? Surely it is the ideas that differ, not the process of definition. 'The clear-cut, cameo-like quality of Greek thought' is one concept, somewhat sentimentally expressed; and what Goethe called 'the shapeless and intangible forms of

the sublime' is another concept. Greek thought got its cameo-like quality from the long process of refinement I have already referred to; but 'the shapeless and intangible forms of the sublime' were also in their turn subjected to a process of refinement and the result was Gothic architecture. The same will to form was acting upon different spiritual concepts.

For Conrad Fiedler Gothic architecture is a by-road, even an impasse, the pointed arch an evasion of the refining processes of the intellect. 'To the impartial and enlightened eye, the entire Gothic style will be a phenomenon which is essentially a side path lead-



*Piazza San Marco*

ing away from the road which all art must travel, no matter how much it bears witness to various excellent human capabilities. It (Gothic architecture) is entirely isolated for, in the obstinacy of its peculiar purpose, it broke away from that which awaited gradual development. When an artistic need was again felt in architectural activity, no points of contact were found in the Gothic style.'<sup>4</sup>

Fiedler was writing in 1878. We would not to-day so confidently assert that modern architecture had found no points of contact with Gothic architecture. Ponti's Pirelli building in Milan, to take only one example, is more Gothic than Greek; and yet it has the intellectual clarity of a precise form; and so, for that matter, has the nave of Cologne cathedral, or any other completely realized architectural concept of the Gothic period. It is true that some of the early Gothic cathedrals, such as Durham, derive their power from their embodiment of numinous intuitions rather than from any intellectual refinement of their proportions, and Gothic form is often difficult to disinter from its piecemeal construction: the conceptions were too ambitious for immediate achievement, and were sometimes muddled or modified by successive builders. But as von Simson has shown,<sup>5</sup> the ideals that inspired the Abbot Suger in the building of Saint-Denis, the first full conception of the Gothic cathedral, were precise enough, and through the mediation of St. Augustine and Dionysus the Pseudo-Areopagite, were derived from classical sources. Gothic form is a strict application of the Greek ideals of harmony and proportion. It is simply untrue, therefore, to assert, as does Fiedler, that the Gothic style has no points of contact with the Greek

tradition; on the contrary, in its most essential features, it is a continuation of this tradition with new modes of construction. The purpose of the new structures was indeed far from the Greek spirit, for the God to be worshipped in them was transcendent and his symbol was the light of Heaven, but the same intellectual passion was directed to the clear realization of these symbolic values in a precise architectural form.

The real distinction between Greek and Gothic architecture is not intellectual: it is not even a distinction of material, for both depend on stone. It is fundamentally a difference of approach to the same material, with the same tools and the same measures. The results are different because the informing spirit is different. Worringer stated the difference in this way: 'the Greek architect approached his material, stone, with a certain sensuousness and therefore allowed the material to express itself as such. But the Gothic architect approached stone with a desire for purely spiritual expression, that is to say, with structural intentions conceived artistically and independently of stone, and for which stone was only the external and submissive means of realization. An abstract system of construction is the result, wherein the stone plays a merely practical and not artistic part.'<sup>6</sup> Or more clearly still: 'Greek architecture is applied construction, Gothic architecture is pure construction. The constructive element in the first case is merely the means to a practical end; in the latter case it is an end in itself, for it coincides with artistic intentions of expression.'<sup>7</sup> Gothic architecture, therefore, might be said to be a better illustration of Fiedler's ideal, because we can say more truly of the Gothic cathedral than of the Greek temple that it

<sup>4</sup> Ibid., pp. 38-9

<sup>5</sup> Otto von Simson, *The Gothic Cathedral: Origins of Gothic Architecture and The Medieval Concept of Order*. (New York & London, 1956)

<sup>6</sup> *Form in Gothic* (London, 1927) pp. 104-5

<sup>7</sup> Ibid., p. 105



'has attained the supreme result in a given field; nothing in the structure is presented to our view except form, and the complete intellectualization of all material elements causes the structure to appear removed from material existence.'<sup>8</sup>

This misconception of Gothic arose in the Age of Enlightenment, when men could no longer believe in a transcendent God and returned to the ideals of Greek humanism. Gothic, because it was an invention of the North, was identified with barbarism, and the fact that its inventors had derived their ideals of proportion from the Greeks was ignored. We might say in explanation that at this time the concept of "style" began to replace the concept of "form", and it therefore became possible to condemn the art of a period for subjective reasons.

I do not wish to draw a parallel between form and classicism and style and romanticism, but style is fluid, intangible, indefinite, only to be described by analogies; whereas form is definite, definable, measurable, open to analysis. This does not mean that form is always logical or rational: we live in a period that has learned to appreciate irregular forms. But one can say that form is always archetypal or universal, whereas style is original and particular.

In this sense Baroque architecture, often associated with the Counter-Reformation, is to be regarded as almost wholly a stylistic phenomenon: as a face-lift for an effete classicism. Fiedler's essay on architecture was never completed, but the strictures he made on Gothic architecture should have been reserved for Baroque; here, if anywhere, was an evasion of the higher demands of form, and though the architectural form was not mutilated to solve a practical problem, which is Fiedler's charge against Gothic,

it was nevertheless ignored to solve an emotional problem: to make architecture a pictorial (picturesque) rather than a plastic reality. The greatest exponent of the Baroque style in architecture is Bernini; it is no paradox that he is also the greatest of the Baroque sculptors. Sculpture, architecture, all plastic means are subordinated to an operative totality designed for emotional stimulation and not for serene contemplation. His best apologist, Professor Wittkower, has admitted that Bernini's aim was to create 'a supra-real world in which the transitions seem obliterated between real and imaginary space, past and present, phenomenal and actual existence, life and death'; and Wittkower suggests that 'this urge to use all the means of illusion in the theatre as well as in religious imagery to try and transport the individual into another reality, seems ultimately connected with the polarity between self-reliance and authority, reason and faith, which afflicted western man seriously for the first time in the seventeenth century: it was the road of escape for those who began to doubt.'<sup>9</sup> But it was not the road which, according to Fiedler, 'all art must travel, no matter how much it bears witness to various excellent human capabilities.'

Let us return to our first principle, that architecture is the art of enclosing space. There are two basic elements: space, and the material used to enclose it. For a work of art to emerge from the process it is essential that these two basic elements should produce a unified effect. *It is not enough that the space alone should be effective; and it is not enough that the envelope enclosing the space should be effective. The art is in the effective synthesis of these two elements.*

<sup>8</sup> Von Simson, *op. cit.*, pp. 22-3

<sup>9</sup> R. Wittkower, *The Sculpture of Gian Lorenzo Bernini* (London, 1955) p. 32

If this is accepted as an elementary axiom, then we must conclude that classical architecture never reached artistic perfection—that it remained a lapidary art to be judged by its external proportions. In other words, it was never decisively emancipated from the sculptural complex in which it originated. It is not until we come to the Romanesque period that a sensibility for space begins to swell the interior space to some expressive purpose. The device that enabled the architect to produce this effect was, of course, the vault, and vault construction, a substructure in antiquity, was, in the striking words used by Fiedler, to rise from a subterranean existence to the light of day and develop anew. What had been a structural convenience was seized on for its expressive qualities, and its articulation is the key to the process by means of which architectural unity was to be achieved. But the development would not have taken place unless an essentially sculptural feeling for mass had been replaced by an essentially architectural feeling for space—the idea, which the vault made possible, that a building could rise from the ground rather than rest on it. This, as I think Fiedler was the first to appreciate, was the simple point of departure for a new architectonic development which gave to the art of architecture its unique aesthetic qualities.

It is not necessary for me to re-trace the subsequent development of the spatial concept in Romanesque and Byzantine architecture, but it should be noted that in the excitement of this new discovery, the architects of the Christian basilica tended to concentrate on the interior and to neglect the exterior, which often gives the impression of a garment turned outside in. Unity remains an ideal, only rarely to be achieved, and no country and no religion has an exclusive

claim to it. Nevertheless, the great centrally planned Byzantine churches remain the prototypes of architectural unity, for they alone of all the buildings of the past are organically articulated. This is probably to be explained, as Professor Michelis has pointed out, because the unity of the enclosed space is stressed by the central dome. 'In diverging towards the perimeter from the dome, the central space makes a centrifugal movement: it is not placed there by the addition of independent spaces around the centre, as in Roman buildings like the Parthenon or the Baths of Caracalla: it is a branching off, an organic development. Height, moreover, is self-emphasized in a natural ascent towards the light, along with the gradual rise of the vaults supporting the dome. Thus, as reproductions of the Universe, the churches aimed to convey the sublime idea of the Omnipotent Spirit through infinite, but unified, space.'<sup>10</sup> Santa Sophia is the supreme example of such architectural sublimity, and it should always be remembered that it was the work of Greek architects in a Greek city.<sup>11</sup>

It must be emphasized that sublimity, in connection with Santa Sophia or any other great building, is an effect of unity, and that such unity is achieved by logic, by the intellect in the service of an idea. This does not mean that art is rationalistic, but rather that reason is in the service of art, to attain that clarity of consciousness, that plastic definition, by means of which the work of art, as icon, can best secure its emotive or symbolic effect. One might say, with Wordsworth, that the 'pure motions of the sense . . . seem, in their simplicity, to own an intellectual charm.'

I shall now turn, somewhat abruptly, to a

<sup>10</sup> P. A. Michelis, *An Aesthetic Approach to Byzantine Art* (London, 1955) p. 40

<sup>11</sup> March Phillips



consideration of modern architecture, for having established this principle of spatio-plastic unity as the distinctive characteristic of architecture as an art, we can now ask to what extent the architecture of our own time has attained it.

Modern architecture, like Gothic architecture, is an exploitation of new technical devices; to these it adds an exploitation of new materials like concrete and steel. Its most essential characteristic is a principle of construction that no longer relies on a rigid shell—the bearing walls have been eliminated and have been replaced by an internal skeleton of steel on which the walls hang like curtains. It is 'a skin and bone construction.'<sup>12</sup>

A second and perhaps equally important characteristic is the fact that the building materials are for the most part machine-made and pre-fabricated. The materials of all previous styles of architecture—wood, stone, brick—were made by hand and could be made to the requirements of the individual architect. Modern building materials are standardized and the economics of modern architecture are such that it is impossible to work with materials that are not machine-made and standardized. This is not necessarily an impossible limitation on the aesthetic potentialities of the art—the composer of music has a limited scale of notes of a pre-determined value.

The modern architect has made a virtue of these necessities; that is to say, he has accepted a discipline of form determined by the nature of the materials available to him and is satisfied if by these means he can create a building that serves its purpose. Rational order, clarity, economy—such are the values he strives to embody in his building. He con-

sciously eschews 'all esthetic speculation, all doctrine, all formalism'—These are the words of one of the greatest of modern architects, Mies van der Rohe, who further has said: 'Form is not the aim of our work, but only the result. Form, by itself, does not exist. Form as an aim is formalism; and that we reject.'<sup>13</sup>

Let me, for the sake of contrast, recall Fiedler's words: 'In architecture, as in every intellectual activity, there is a progress from the formless to the formed . . . Forms which owe their existence to needs and wants, or to technical ability, are, so to say, moulded from outside according to certain independently formulated requirements . . . (The) artistic process of creation in architecture is characterized by an alteration of form whereby materials and constructions continue to recede, while the form, which belongs to the intellect, continues to develop towards an increasingly independent existence.'<sup>14</sup>

A complete contradiction! We must do our best to resolve it, for Fiedler and Mies cannot both be right. They are on opposite sides of this question, which is the question of formalism in architecture. (Incidentally we may note that the discussion of this problem is not confined to architecture: it rages in all the arts).

The aphorisms I quoted from Mies date from 1923. Unlike most of our leading architects, Mies does not often resort to writing and propaganda, but there is a later and more considered statement of his aims which he made in an inaugural address as *Director of Architecture* at the Armour Institute of Architecture in 1938. In this address he distinguishes between 'practical aims', which he says are 'bound to the specific structure of our epoch' and 'values' which are 'rooted in

<sup>12</sup> Philip C. Johnson, *Mies van der Rohe Museum of Modern Art* 2nd edn., 1953, p. 188

<sup>13</sup> *Ibid.*, p. 189

<sup>14</sup> *Ibid.*, pp 12-13

the spiritual nature of man'. He then admits that though architecture 'in its simplest form' is rooted in entirely functional considerations, 'it can reach up through all degrees of value to the highest sphere of spiritual existence, into the realm of pure art.'

He then remarks what feeling for material and what power of expression the great buildings of the past possessed, and how the power of expression comes from the discipline of the materials used. He says that all this is no less true of steel and concrete: 'everything depends on how we use a material, not on the material itself.' How it is used will depend on the functions of the building, and on certain psychological or spiritual factors, for in the end we are dependent on 'the spirit of our time.' Three different principles of order are available to the architect: the *mechanistic* which overemphasizes the materialistic and functionalistic factors in life; the *idealistic* which overemphasizes the ideal and the formal; and the *organic* which alone achieves the successful relationship of the parts to each other and to the whole. Mies takes his stand on this organic principle of order and here he sets himself alongside a modern architect who superficially would seem to be very different in practice and style, Frank Lloyd Wright—"a master-builder", as Mies has called him, 'drawing upon the veritable fountainhead of architecture; who with true originality lifted his creations into the light. Here again, at long last, genuine organic architecture flowered.'<sup>15</sup>

I do not know whether Frank Lloyd Wright was the first architect to use this word "organic" to describe his principles. He tells us in his *Autobiography* that when at the age of twenty-one he married, Sullivan, to whom

he was apprenticed, allowed him to build a house for himself, and that he carved in the oak slab above the fireplace in the living room, 'Truth is Life'. A challenge to sentimentality, he then thought; and soon after it occurred to him that 'Life is Truth.' That was in the year 1888, and that is perhaps the moment when the idea of an organic architecture was born. It was an idea that grew with his work, and which was still growing when he died seventy years later.

Frank Lloyd Wright often defines what he meant by organic architecture, and though the best definition is to be found in his buildings, I like to recall one that I was privileged to hear when he lectured in London in 1939. Perhaps the most important statement he made on that occasion was that organic architecture implies an organic society. He also said that the word "organic" does not, cannot apply to so-called classic architecture in any form whatsoever, and it does not apply to any of the "period" buildings, even the "Georgian" in which we live to-day. The term does not apply to anything else we happen to have. It would apply, however, to the old Japanese buildings; Japanese domestic architecture was truly organic architecture. It would apply to certain other periods in the architectures of the world. Egyptian architecture was in a sense organic architecture, an expression for the feeling for human form. The Gothic cathedrals in the Middle Ages had much in them that was organic in character, and they became influential and beautiful, in so far as that quality lived in them which was *organic*, as did all other architectures possessing it. Greek architecture knew it—not at all! It was the supreme search for the elegant solution.'<sup>16</sup>

This is a definition by enumeration, but it

<sup>15</sup> Johnson, op. cit., (from an appreciation written for the unpublished catalogue of the Frank Lloyd Wright Exhibition held at the Museum of Modern Art) p. 201

<sup>16</sup> *An Organic Architecture: The Architecture of Democracy* (London, 1939) pp. 10-11



serves to make clear that Frank Lloyd Wright, equally with Mies van der Rohe, would reject the intellectual ideal of form represented by Greek architecture as interpreted by Fiedler, and represented by Gothic architecture as interpreted by von Simson. But before we slip into the easy solution of accepting this organic principle as obviously the right one, let us realize a little more clearly its implications. We have to ask what Wright meant by an organic society, and we know, from his many statements of the ideal, that it was something decidedly inconsistent with 'the spirit of our time' upon which, according to Mies van der Rohe, the architect is and should be dependent. Mies describes Wright as 'a giant tree in a wide landscape', a metaphor which well suits his isolation. He was against all the cherished ideals of our civilization—he was against skyscrapers, he was against cities, he was against civilization itself. He was for decentralization, distribution, individualism. 'Life', he wrote at the end of his *Autobiography*, 'always rides in strength to victory, not through internationalism or through any other "isms", but only through the direct responsibility of the individual. It bears a royal characteristic called Initiative. Where Individual initiative is active, strong and operative, there you may see the mainspring of life in abundance, operating.' And his conclusion might well be ours—'Organic Democratic FORM: TRUTH ever fresh has not yet come to our Civilization.'<sup>17</sup>

A sober conclusion: and yet I linger over the word FORM. What does it imply, in an organic or any other context? There I think Fiedler, and the whole classic sense of order, perhaps mediated to Fiedler through Goethe, still has some relevance. There is, in reality, no such thing as Form, but only a profusion

of forms. And surely Fiedler was right in insisting that there must be a process of refinement in which the genuine is separated from the false, or shall we rather say, the vital from the dead. 'The motley wealth of forms must disappear, and all creating power must express itself in such a manner that in the ever near and ever more perfect, sought-for expression, the given great thoughts of form expand to ever higher clarity and perfection. Only thus is an architectural style, in the true sense of the word, created.'<sup>18</sup> Clarity and perfection are words used by Mies van der Rohe, though not conspicuously by Wright. What I am searching for, in conclusion, is some formula that would combine individual initiative with universal values, and that combination would give us a truly organic form. Form, which we discover in nature by analysis, is obstinately mathematical in its manifestations—which is to say that it requires thought and deliberation to achieve its creation in art. But this is not to say that form can be reduced to a formula. In every work of art it must be recreated, but that too is true of every object of nature. Art differs from nature, not in its organic form, but in its human origins: in the fact that it is not God or a machine that makes a work of art, but an individual with his instincts and his intuitions, with his sensibility and his mind, searching restlessly for the perfection that is in neither mind nor nature, but in the unknown. I do not mean this in any other-worldly sense: only in the sense that the form of the flower is unknown to the seed.

A very perceptive American critic, Roger Shattuck, has recently suggested that what distinguishes the modern movement in the arts is the rejection of the principle of unity.

<sup>17</sup> *An Autobiography* (London, 1945) pp. 484-5

<sup>18</sup> *Ibid.*, p. 50

The modern sensibility, at the turn of the century, 'began to proceed not so much by untrammelled expansion of the unities (which had been the abandon characteristic of romanticism in the preceding century) as by a violent dislocation of them in order to test the possibility of a new coherence . . . a work of art began to co-ordinate as equally present a variety of times and places and states of consciousness. The process, because it seeks to hold these elements in a meaningful relationship, relinquishes both classic unity and also the quality of self-forgetfulness which characterizes romanticism.' *Juxtaposition* is the key-word of this new sensibility; setting one thing beside the other without connective. The twentieth century has addressed itself to arts of juxtaposition as opposed to earlier arts of *transition*.<sup>19</sup>

If style is thus related to unity, Mies would seem to rate as classic, Wright as romantic. Is there then an architecture that would correspond to the arts of juxtaposition—to the cubism of Gris, the poetry of Apollinaire, to polyphonal music and the fiction of Proust? Mr. Shattuck believes that there is, and that one of its most successful manifestations has been "functional" architecture, 'which allows all parts to show in a building almost as if they constituted its subconscious.' The subconscious of a building is a difficult concept and it would hardly have appealed to a formalist like Fiedler. But in the sense that 'any

form of decoration, transition, or arbitrarily imposed symmetry' would begin to hide the discontinuous parts or functions of a building, in that sense the metaphor serves to describe the "brutalism" of which many of our younger artists have made an aesthetic virtue. Architecture, too, can become an arrangement of fragments of experience, 'a complex art, perishable, perhaps, of self-awareness.' Its unity, in so far as it achieves unity, is an equilibrium of forces, a state of arrested movement, of tension.

It would be against all historical precedent if modern architecture were not to show some sympathy with the arts contemporary with it, and there is no doubt that the characteristic arts of our time show just these features of juxtaposition, of diverse but interrelated states of consciousness, attributed to them by Mr. Shattuck. But Mr. Shattuck is ready to admit that works of art must nevertheless aspire to 'the simple stability of monuments', and that an equilibrium of forces does not achieve artistic validity until that equilibrium becomes a condition of absolute stillness. In this I agree: modern architecture may be as nakedly functional and fragmented as it chooses, but in so far as it aspires to be art, it is an organization of form that we can contemplate with serenity because it is emancipated from time, a true measure that reconciles all material elements and all spiritual forces in harmonious unity. The material elements change from age to age, and so do the spiritual forces: the principle of unity remains constant.

<sup>19</sup> *The Banquet Years; The Arts in France, 1885-1918* (New York & London, 1959) pp. 256-7





Limburg Cathedral

## Art And Psychosis

*Art and Psychosis* is a chapter from the book *Vermassung und Kulturverfall* by the Belgian Sociologist, Henri de Man.

According to de Man, "The essential objective of the book is to point out that a permanent war is the immediate threat pending over our civilization. The permanent war can be only understood as a product of 'Gregarianism', in particular—masses' organization, masses' fears, masses' propaganda."

"Each of us is 'gregarious' up the extent that our social attitude in any domain is determined by the masses' influence.

"Gregarianism is more acute in the U.S.A. than in Europe. From the technological point of view the masses are a product of mechanization, from the economical point of view, a product of standardization, from the sociological point of view, a product of democracy."

Even outside of his working hours the average citizen is not more than a small piece of a colossal social machine. Using Dr. Stockmann's expression in the *An Enemy of the People* of Henry Ibsen, 'the common citizen thinks his supervisors' thinking'. Needs and routine are the laws of his behavior. The whole thing begins in the morning when he gets up in his suburban home and fills, following an immutable ritual, each of the seconds whose use he has carefully regulated up to when he leaves home to take a train, a bus, a subway or to drive in his own car. The whole thing closes at night when at home he, again, reads the same newspaper or watches the same TV programs that millions of his equals watch. The whole social machine like a gigantic roller flattens and uniforms his personal life and behavior and makes him a standard product."

Henri de Man, says in the closing paragraph of his book, "When the fate of everybody is at stake, it is important that everyone does what his conscience orders him to do; the rest is not in our hands."

Historians of civilization are unanimous in recognizing that nothing can measure, better than art, the rising and falling curves of a civilization. The transformation of aesthetic feeling and artistic form is an extremely sensitive indicator because art is the most immediate, the most intuitive, and thus the most naive expression of that which is called the spirit of a period.

True, it is at the beginning of a cycle of civilization that art reveals itself most clearly as such an indicator. But throughout the course of time, art seems to be an initial manifestation, the first flowering of a new plant. Lecomte du Nouy, speaking of Magdalenian cave paintings, emphasizes correctly that "the emergence of aesthetic feeling is the first tangible evidence of a new direction of evolution rising out of the animal state. Unless motions—I take the word in the sense of those motions not absolutely necessary for the sustenance or defense of life—carry in themselves the germ of spiritual ideas, of abstract ideas, the germ of the idea of God disengaged from pure fear, the germ of morality, of philosophy, and of science. . . The aesthetic sense is the primitive source of intelligence, symbolism, writing, and of all the things that condition future development." Benedetto Croce has expressed the same idea: "Art is the root of all our theoretical life, not the flower or the fruit, the root."

Psychology in depth, particularly when applied to the collective subconscious, has given us some new concepts of the nature of the operations which cause all the content of our thought and beliefs to issue from certain



primitive symbols. And at first, only the aesthetic sense is able to seize upon and express these symbols. The reign of the "imago" precedes that of the "ratio".

In declining phases of culture, the relation between civilization and the evolution of art exhibits itself less clearly. Since we deal in such phases with the phenomena of decomposition and dissolution, it is in the nature of things that these phenomena should present an image without homogeneity and without clearness.

About a century and a half has passed since the decomposition of the last of the authoritative styles. This was the neo-classic style and its very name shows that it was really only a lunar reflection of an almost extinguished light. In the course of time some phenomena without precedent in history have occurred. It is, for example, an absolutely new fact that a decadent civilization may remain for so long a period totally devoid of style. But the West has so remained since the end of the baroque period, or the rococo, or more accurately still since the victory of romanticism over classicism. It is also without precedent that during so long a period of vacuum new inspiration has been ceaselessly sought in the most ancient and foreign styles. **Finally—and this is a completely new phenomenon—the artistic production of this period is entirely dominated by the feeling that it is necessary at any cost to express something other than the world in which it exists. This feeling shows the unsatisfying and precarious character of our civilization in its decline and motivates the conscious search for the new and extraordinary.**

It is, therefore, difficult to discover a direction in such chaos, and one inevitably encounters subjective judgments about art upon which it would be impossible to establish objective observations of general validity

However, it does not seem impossible to determine by scientific methods an axis which fits the curve of the whole artistic evolution since the beginning of the last century. One has only to ask whether, in observing the four or five representative arts historically, (architecture, painting, plastic arts, music, poetry) any characteristics occur in series that trace parallel curves of evolution. If we do find these curves, we must then search other areas, those of different institutions, in an attempt to discover similar parallel curves.

One can also proceed in inverse order and begin by asking whether evolutionary characteristics established in the area of institutions do not furnish a key to the understanding of parallel curves in the history of art. The two methods are valid if both lead to the same result; a double proof could then be made.

Let us start, then, from facts already demonstrated by the observation of essential phenomena, whether psychological, social, or rising out of group psychology. The end result at which we arrive is the elimination of the **ancien regime** of production based on a hierarchy of duties, and the creation of a new order depending on limitless competition and the acquisitive instinct; the transition from a social hierarchy established on hereditary authority to a state wherein there are still many classes but no longer differences in rank; the disappearance, following the freeing of selfish interest, of the scale of values which was formerly imposed. The common denominator of all this is the breaking of ties which, in the old order, drew the component parts into a coherent whole, a denominator that one could perhaps designate more laconically as fragmentation of the community. This has led psychologically toward a schism between conscious and sub-conscious spiritual life, in the course of which

the purely instinctive and emotional element is more and more withdrawn from the direction exercised by the world of conscious representations.

To this corresponds the dissolution of ancient style forms in the arts, even the dissolution of style itself, to the profit of an evolution which more and more advances the subjective elements of the soul of each artist at the expense of objective and social elements.

The most striking characteristic of the new period was thus furnished by a driving power which, before modern times, had played no notable role in artistic creation—the search for originality.

Transformations in art are explained in large part by the transformations of its economic status and its social function. In the Middle Ages the artist was, from the social point of view (and so long as he was not an ecclesiastic), an artisan working for a collectivity on a collective work. His personality played such an insignificant role in this that the greatest masters of architecture and sculpture of that time have left scarcely any identification other than their initials or bench marks.

But even in so-called modern times, when artists were already frequently working for private persons and conceiving their trade in an increasingly individualistic fashion, the need for *originality* was still not known. Shakespeare literally and openly borrowed whole sections of his historical dramas from the chronicles. Goethe was still persuaded “that basically we are all collective beings and that very little we have and represent can be considered to belong to ourselves in the true sense of the word.” The essential thing, he concluded, “was to have a soul which loved truth and welcomed it wherever

it was found.” Without evasion he acknowledged having taken from *Beaumarchais* and “translated literally” the principle scene and even the plot of *Clavigo*; he classified concern about originality as “completely ridiculous and pedantic.”

Johann Sebastian Bach did not consider himself degraded in his own eyes or in those of his contemporaries by submitting, even as did the humblest of his colleagues, to the rules of his metier as they were established. And consequently he used, without making any mystery of it and at different times, not only motifs and musical phrases he had already used elsewhere, but also works of other composers. It is not enough to say that the greatest musical genius of all time could well afford to do so. The practice seemed absolutely normal to all his contemporaries because it was current. They were not yet accustomed to confusing genius — which means, above all, creative power — with originality, which particularly manifests itself in the desire to appear at any price different from others.

Such ambition could appear as a typical driving force only in a period in which each artist is obliged to struggle with his artistic brothers to find the most favorable outlets on the public market. Thus, only in the 19th century did the charm of the unaccustomed or the new come to be considered aesthetically valuable. The decisive step in this direction was made by the romantic school, which, between 1830 and 1840, won its first victories in all domains of art. This was the aesthetic accompaniment to the final triumph of the democratic bourgeoisie over the last remnants of the ancient aristocratic order, a triumph which took place at the same time. Since then, evolution has been under the spell of an individualism boldly attempting to



do the new and systematically rejecting a style guaranteed by the continuity and permanence of tradition.

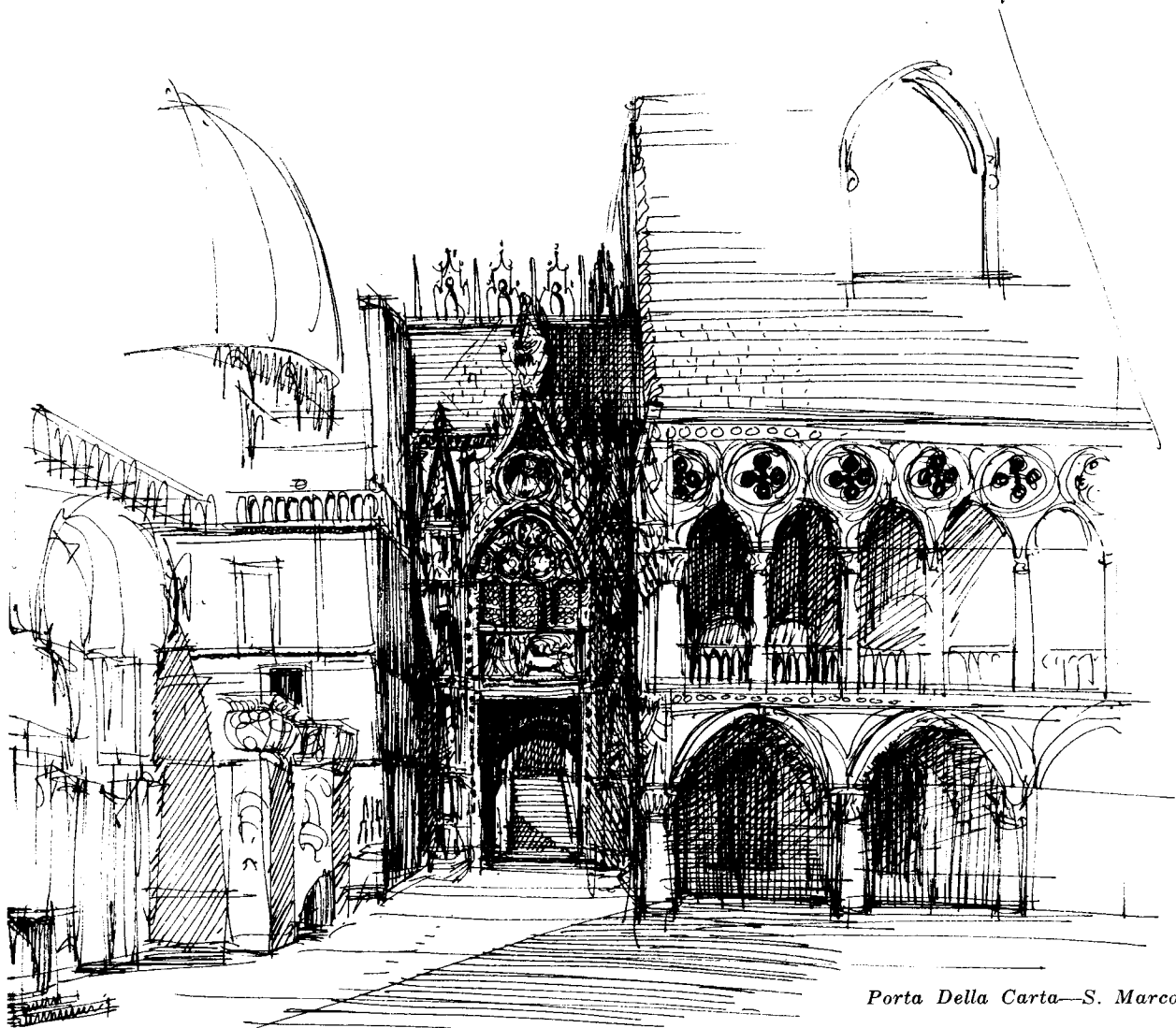
In this competition for the newest forms of art, the buying public, in measuring the value of a work, no longer asked whether it was "beautiful" but whether it was "interesting." Let it be enigmatic or even incomprehensible in the common sense of the work—nothing was spoiled. Whoever knew how to appreciate it appeared superior to his literal minded contemporaries. Artists, for their part, have not delayed in learning how to exploit this snobbery. Even the best of them (because there are naturally in all periods some worthwhile masters) do not fail to "startle the old fogeys" according to the time-honored formula. One who did not shock the staid risked being thought an imbecile or an uncultured person. Naturally, this was the worst thing that could happen to a bourgeois, to a man whose social prestige cannot pretend to be founded on quality unless, along with his money, he can make a show of being cultured.

Thus, production with the view of sale on the market led at the same time to a separation of art and style and a separation of art and the community. From this point, the evolution of art no longer was subjected to the transformations of style, but only to changes in fashion. Change of this sort has resulted in the obvious break-neck speed of artistic evolution since the last century. If art historians have been able, when dealing with previous epochs, to cover several centuries in a chapter which treated a single style, they must now devote at least a dozen to the 19th and 20th centuries and to use an "ism" in the title of each of them, because each new school considered the preceding school as out of date and as grotesque as the clothes worn by a mother would seem to a

young daughter. The difference was that the "schools" followed after intervals of some years and not after each season.

A second difference was that aesthetic fashions did not reach the masses as did clothing fashions, but spread only through the spheres of society which frequented concerts and art expositions or which read volumes of verse. We know that the majority of radio listeners change stations as soon as the one they are listening to broadcasts contemporary music, and in the concert hall likewise, many of the audience leave when the classical part of the program is finished. That is why program planners who, for some reason, still want to include contemporary music have come more and more in recent years to place these contemporary numbers in the middle of a program. This somewhat upsets the structure of the program but effectively prevents the public from leaving. In spite of this education by force, the indisputably competent observation by Wilhelm Furtwangler remains valid: "Though atonal music awakens particular resonances in the feeling of modern man facing life, the majority of the public experiences a tenacious and insurmountable aversion for this type of music," an observation he was still able to make in 1950.

This certainly does not apply alone to atonal music, but, in a more or less strongly marked manner, to the whole of contemporary music. Compositions less eccentric from the point of view of tonality seem to the majority of listeners truly insignificant or insipid. The most happily gifted of contemporary composers themselves do not succeed, it seems, in convincing the public that they have something to say which is worth being listened to. In the long run, the most sought-after form cannot hid the fact that the fundamental vice is in the poverty of the back-



*Porta Della Carta—S. Marco*

ground, and this itself is the consequence of the disappearance of a social function. The only form of modern music which has awakened an echo in the masses is dance music based on jazz or related forms. We have reached in this area so low a level that nothing can better indicate how the decadence of music is the consequence of the decadence of its function. The goal which is involved here no longer has anything in common with

what both profane and religious music of previous centuries proposed, nor even with the aims assigned to himself by Richard Wagner, the talented leader in this race toward decadence. We could discover there no more aesthetic significance than in some kind of poison exciting drunken erotic passion, no more feeling than would be found in an orgy of Negroes in Haiti celebrating voodoo ceremonies.



In the plastic arts the same essential phenomena strike the observer, although they often appear in a less extreme form. For lack of a satisfactory reply to the question, "For what purposes?" one is more and more embarrassed to reply to the question, "What is it worth?" This difficulty is no less great among the public than among the artists, and there would be very few things on the modern art market if the esotericism of this impenetrable obscurity did not encourage a certain pretense of belonging to the intellectual elite.

Architecture represents, in relation to these phenomena, a case apart. **The architect does not work for a market but for individual clients. He does not produce a luxury merchandise but practical and indispensable works, and he is obliged in a large measure to reckon with the nature and price of materials. Thus, architecture has continued to adapt itself to the curves of technical evolution, at least as much as to the curves of the aesthetics which control those arts more sensitive to fashion.**

This equivocal situation has made possible the functionalistic reaction against the taste of the masses for ornamentation by which each one can "manifest his rank", and for the other excrescences of an eclecticism which borrows from history. This is a delightful exception in itself certainly, but there is not sufficient reason to believe that we are already on the threshold of a new period, of a new style. To the arguments already given elsewhere, a fundamental and decisive consideration should be added here: rebellion against the ugliness of a period without style is not sufficient to create the aesthetic canon of a new style. **For the moment, we have simply reached a zone of cleanliness which remains empty.**

The essential merit—which must obvious-

ly be highly regarded—of "cold order" and functional "pure form" consists in a completely negative victory: they have triumphed over a lie. The principal virtue of functionalism is, then, the sincerity with which it expresses that which gives to our whole period its content and its direction. It does not bring the new faith without which it is not possible to have a new civilization; it is the reign of technique.

It is very fortunate, for practical reasons, that an increase of comfort, better hygiene, better light, purer air and less restraining domestic work may be the consequence of such improved techniques. It is no less fortunate that one can enjoy all of this—provided he has the necessary financial means—without being obliged to acquire it at the price of the daily spectacle of a museum of vulgar and pretentious horrors. However, a new meaning given to life is a completely different thing from a more agreeable and healthier mode of living. Functionalism, even of the most honest and proper sort, precisely because it is firmly attached to its technical task, cannot express realities and values other than those already having authority in its social ambience. The ideal functional habitation of our epoch would be subterranean as in the time of the caveman—with only a facing of shining glazed tiles instead of rock paintings and with air conditioning—as in the satire by Henry Miller in which totally Americanized life is described as an **air-conditioned nightmare**. It is sufficient to evoke the nightmare *to reach the conviction* that, since the beginning of our styleless epoch, there has existed between the evolution of architecture and that of the other arts differences of types and degree, but no differences of nature. **In the final analysis there is no writer, no musician, no painter, no sculptor worthy of the name who can free himself**

completely from the dream of a rebirth of style. However, it is an unrealizable dream simply because of the prerequisite condition: a new direction given to life and to the world by a new community among men does not exist.

With the exception of some rebels who must be content with partial success in necessarily limited fields, the artists of today are condemned to produce works without object for the community in its entirety, and consequently deprived of meaning. The search for originality shows simply that the artist no longer has any alternative other than to put himself in the limelight. Art has thus become objectless in a double sense: by losing its social mission, it has lost the respect for things of the outside world. The artist, in the sense in which he is something other than a manufacturer of knickknacks offering vain ornamentation to those privileged by fortune, has no other mission than "to express himself." The "subject" only counts, to the detriment of the "object."

Goethe, while speaking to Eckermann on January 29, 1826, thus interpreted this phenomenon in the history of civilization: "All retrograde epochs, all epochs of dissolution are subjective. On the contrary, period of progress have an objective tendency. All the present period is a period of recession because it is subjective. You do not notice it when considering poetry only, but also in painting and in many other things."

Music and plastic art were a part and are still a part of "these numerous other things." Here also a strangely suggestive parallelism is manifest in the progressive development of the subjective tendency up to the present. The tendency is part of the same process of dissolution which is only a complimentary phenomenon to the symptoms of psychological and social decomposition.

In painting, after the sacrifice of the object to space, comes the sacrifice of the space to the light, and so on, degree by degree, up to the point where the artist is only interested in that which is happening inside of himself. In that also there exists a complete gamut in which one can follow the nuances of the evolution from impressionism to surrealism while passing through symbolism and expressionism, just as the doctor follows the progress of a neurosis or psychosis. In the beginning, one still paints the impressions of a half consciousness, at the end all that count are visions of the subconscious self, or more exactly, of the "id" which forms the lower layer of the personality.

The process develops with pitiless logic. The individual is isolated as a result of the decomposition of style and tradition, misled by the elimination of time and space, thrown out of perspective by the disappearance of any objective image of the world. He is powerless to replace the values and the forms eliminated. He must then, if he wants to represent what is happening within himself, be content with pursuing this analytical work to the point where he resolves himself into his own components. In the end there remains only a residue to which he may apply this effort to express himself. It is the unconscious layer of the spirit in an infantile state, the layer of dreams and schizophrenia.

In an analysis of Picasso's painting and of James Joyce's *Ulysses*, C. G. Jung has proved in a convincing fashion that these two works arise from a method of thought which is turned inwards, and which yields only sensations and impulses without troubling to distinguish between the beautiful and the ugly, the real and the imaginary, the causes and the effects, the sensible and the absurd. However, it may be that the artist himself is not attacked by a schizophrenia because



he is only following the direction of a schizophrenic current in the collective subconscious, a current which only an analysis by a social psychologist can diagnose.

In other words, the dementia of a work of art does nothing other than reflect the dementia of the period in general. There is a tragic irony in the fact that while today artists with healthy minds are creating works of madness, the first philosopher of civilization who disclosed the nature of this madness, Nietzsche, ended his life in the shadow of dementia. He nevertheless displayed a sinister perspicacity in diagnosing the fundamental ill as the "destruction of values." And today, on the threshold of the age of the atomic bomb, the observation made by him sixty years ago that "the anarchy of the atom" was the symptom of decadence produces a no less sinister effect.

From yet another point of view, this conscious abandonment of all intellectual forms beyond the "symbolic thought" of primitive or infantile man appears as the logical outcome of a curve of evolution whose origin is almost two centuries back. After all, the substitution of the subjective for the objective described by Goethe indicates only a general tendency, an axis, around which are found all sorts of secondary curves. The waves thus formed correspond, on the one hand, to the phases which the general process of decomposition traverses in its progress, and, on the other hand, to the more or less disconcerting whims of fashion. All have, however, in common a fundamental impulse: the exodus of the "here" toward the "elsewhere," away from the present to another period.

This exodus can occur in the most diverse directions, and each one has known its hour of fashion. Let us recall simply the first expression of it, which Freud called "the uneasy feeling in civilization": the philoso-

phy of Jean-Jacques Rousseau, joined to a fascination for the exotic and the primitive which marked with its imprint the whole of the period for some decades, determined the fashion in all sorts of domains.

There is, however, a great step from the romantic idealization of the pure minded Huron of Rousseau, from the naive Persian of Montesquieu, **to the imitation of Negro music which, in place of acting on the brain, acts on the spinal cord.** Rousseau's contemporaries still danced minuets; and they would have fled from jazz. This great distance has nevertheless been traversed by stages, stages which have coincided with the progress of ethnographic research that has established today's realistic image of primitive man. **And it is not by chance that it was reserved for America, as the country of the most advanced practical civilization, to write down, in spite of all racial prejudice, Negro music itself—and even a Negro music uprooted and degenerated in emigration—at the lower end of a curve which formerly reached up to Bach and Mozart.**

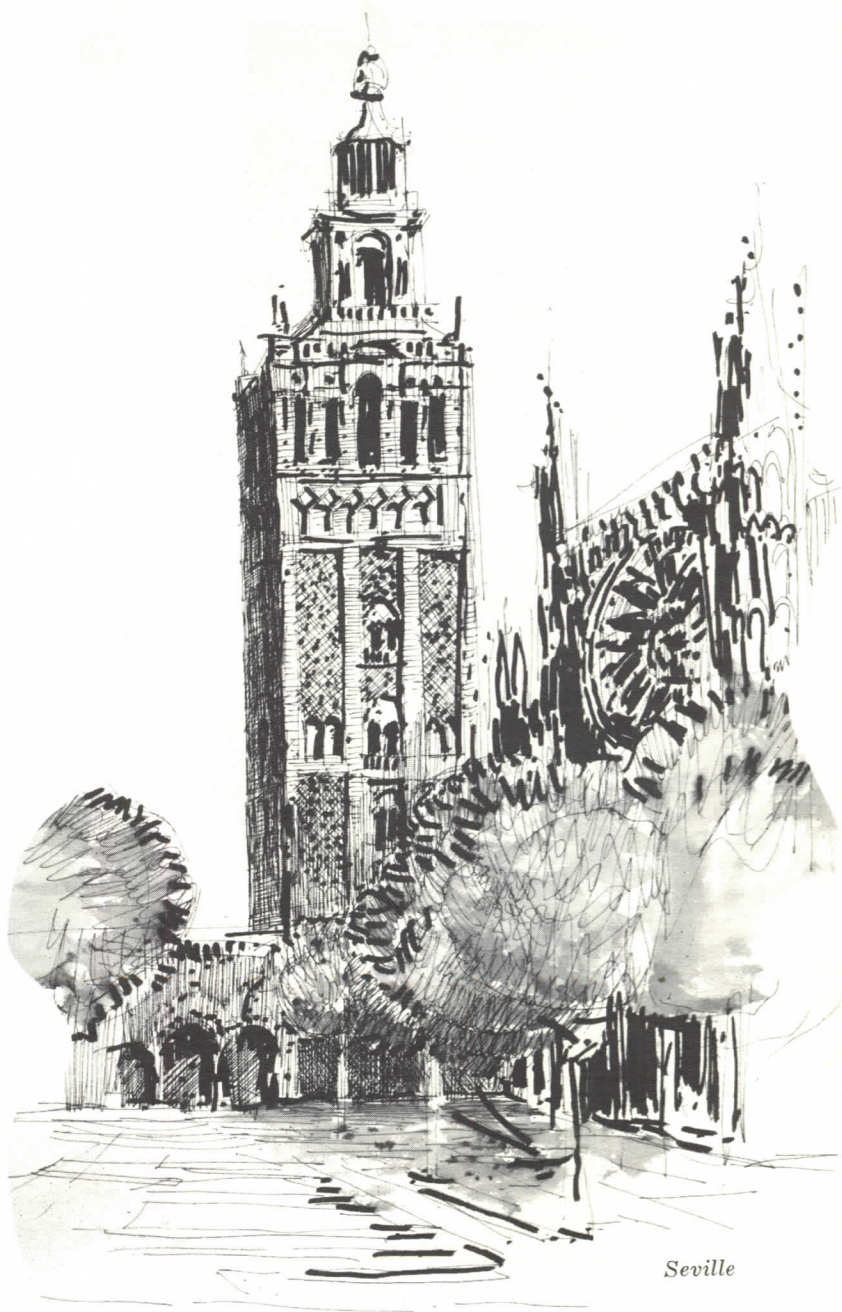
Escape in other directions tended, under the form of historicism and archaism, toward an idealized past, and under the form of futurism, toward a future conceived as a technocracy totally deprived of spirit. Certainly, the generation of the two world wars has not let itself be led very far in this direction, for it has come to recognize unfettered technocracy in a less agreeable light. An historical drama in our mid-century has the staleness of the decor of a musty theater, and gothic battlements or renaissance portals are not in accord with concrete construction. After a period in which "human bestiality was manifested with such splendor" and, in the thundering of bombs and screams of anguish, laid bare the most basic layers of the soul, the taste for the primitive has become

all the more violent—a primitive which is no longer romantic but only assures the descent of the soul into the lower regions where the renouncement of all high civilizations is the price that one must pay, to free himself from the limitations that such a civilization implies. If one wants to measure the path run on this terrain for a half century, he has only to recall the elite of snobs, that appeared around 1900 and in order to give itself a decadent appearance, affected a refinement which could only be acquired through a continuous effort of selection. This attempt was interpreted by the pessimist as the main symptom of the decadence of civilization. Today art tends toward the primitive, the contrary of refinement, and this phenomenon is not limited to a small clique of poseurs but is closely joined to a general decay in the masses and entwined in “the collective subconscious” of all Western humanity.

There are some sociological theorists who accept the primitive in its forms—Negro jazz music, surrealist painting, poetry in bad grammar—as a renewal of civilization. They support this attitude by the fact that a new civilization can only arise from a new feeling about the world. It must be spontaneous, instinctive, void of all intellectualism—and the primitive would be all of that.

A few years ago the American Professor *Northup* created a sensation with a book advocating a synthesis between oriental civilization and the occidental. Here is the essential thesis: the intellectualism of occidental civilization has destroyed the faculty for creating aesthetic value by abolishing spontaneity and innocence in the expression of the subconscious gifts of the soul; a new civilization, then, postulates the return to the primitive.

The truth is that “intellectualism,” or



Seville



more exactly, the unfettering of the need to know has played a decisive role in the evolution of occidental civilization, even in this phase of decadence. But this far from justifies the primitivism of contemporary art. Because, first of all, primitivism is a completely different thing from the primitive. The spontaneity and the innocence which would prove its aptitude for its mission of renewing civilization are precisely the qualities which primitivism lacks the most. It is the outcome of a long evolution accomplished in complete consciousness under the spell of a growing deception and skepticism. Never have men philosophised so much on art, built so many theories, as in the course of this evolution, and never was an artistic direction taken with more awareness than this descent into the subconscious.

But even if it were otherwise, the supposition on which it is founded, namely, that a truer new art, that a higher new civilization can be born from the total liberation and unleashing of subconscious forces is in itself fundamentally false. It rests upon an erroneous concept of what the primitive is in its most authentic and fertile aspects. **The art of primitive people, whether it be that of our Magdalenian ancestors or that of the Negro tribes of Africa and Polynesia, is far from being spontaneous in the sense of schizophrenic subjectivism. It is subjected to rules discovered and admitted by reason. These rules rest, among other things, on severe religious precepts, on no less severe traditions of ability in the practice of the art, on the functional destination of objects or works produced and finally on the rational adaptation of tools to the material.**

Thus it is, for example, inconceivable among the real primitives that anyone can consider himself an artist without being master of his craft—as is the case frequently

**among the primitivists of our period. It is equally inconceivable among them that one can imagine himself having only to take into consideration what is happening within his innermost self, without the slightest regard for the "God of things such as they are." Only inspiration can be spontaneous, but the execution requires a vigilant, conscious effort where the brain directs the hand.**

In fact and in truth, all history of art proves that art begins only where spontaneity ceases, and that its gradual perfecting is in direct proportion to the development of objectives, of rules, of scruples, of limitations anchored in the consciousness. The proof of this fact is furnished by the lives of all our great poets, musicians, painters, and sculptors. **It is the same with art as with education, culture, civilization in general: inhibitions determine the direction and the power, just as a swamp does not become a river until it is limited by banks.**

It goes without saying that "the schizophrenic tendency" pointed out by Jung "in the collective subconscious" can be considered a psychosis only in a figurative sense. Nevertheless, the image of it is, in itself, just as admissible as, for example, that of the social body, of the social organism, of the collective conscience, etc. There is in human society a division of functions between organs of direction and organs of execution which can be compared very well to the biological differentiation between the brain and the body. On this point one can say that the same collective dementia which is revealed in art is revealed in practical collective life, almost exactly as among individuals, under the guise of malfunctions of the directional apparatus. These malfunctions appear in the fact that events—interpreted as the behavior of the masses—are no longer under

the control of the consciousness. Perhaps there is no definition which renders more exactly the essence of the psychosis than the clearly pragmatic formula of English law: "Insanity is the inability to manage one's affairs with ordinary prudence." The statement implies the fact of leading, directing, guiding: managing.

Psychoses are not, we all know, impediments in the faculty of thinking about oneself, but impediments in the apparatus of direction which must normally subject affective life and will to the faculty of thinking. The most frequent forms of mental illnesses are those of certain affective states and certain habitual volitions which free themselves from this control and, reversing the normal situation, compel the brain to obey their orders in such a way that the brain is capable of constructing an unreal image (but one appropriate to its ends and logically controlled) of the outside world and of the universal order in its entirety.

The same is true of decadent collective phenomena in the domain of the spirit. For example, what is most striking in our period is the impotence of the machinery by means of which men direct things pertaining to their collective destiny. That is why the comparison with a ship without a rudder never ceases to present itself to the mind.

This absence of a rudder not only expresses the *impotent* and cosmic anxiety of the individual who feels himself tossed about by a crushing force, that of the social mechanism, and who as a result feels helpless; it is equally, in a real sense, an effect of society, since the mechanism itself has reached dimensions which have taken it beyond our control.

The devaluation of high values, diagnosed by Nietzsche, has ceased to be a theoretical problem to which only the meditation of

philosophers or theologians is applied. **The vague awareness of a serious and increasing doubt weighs over almost all men today in a more or less intense fashion, a doubt about the direction which life requires of them.** It is not imposed upon them by their reason. The majority are not even capable of expressing sentiments of this type, much less subjecting them to reasoning. These feelings are born of daily concrete experience, at least as soon as the horizon extends beyond that which is immediately in hand. "They fulfill their daily tasks," says Hans Freyer in a striking statement, "with the zeal and seriousness of thoroughly mad men; each detail has extreme importance, but the total has no direction, and there is at the bottom of their hearts an anxiety which they cannot ignore."

The worker or employee whose work has increasingly lost the significance of a creative act in the service of the community must experience a feeling of this kind. His activity is too concentrated on the minute gears of a mechanism whose size and complexity can no longer be grasped by the eye. The market has become much too large a concept, almost abstract, and the interference of too many anonymous and foreign intermediaries prevents one from following in its totality the development of operations and finding their meaning.

After two wars whose real result has been in flagrant contradiction of their declared aims, the community of mortals can scarcely defend itself from the impression that not much more can be expected from the third, and that even worse can be predicted. This feeling that something is not going well in the handling of the ship comes also, without any need for long reflection, from the observation that the same world which announces the right of people to govern them-



selves democratically and whose governments affirm in a single voice their desire for peace is about to run irrevocably into the feared catastrophe. An instinctive defiance, going sometimes as far as unreasonableness in regard to everything related to the state and its bureaucracy, reinforced again by the repeated experience of war and inflation is more and more apparent. It is inseparable from this feeling that there is a malfunctioning in the transfer of the will of the electors to the elected and to the authorities, at least in the great nations.

This impression that the controls are confused also torments men of science and inventors, who despair upon seeing their efforts to extend man's empire over nature develop into the creation of more seductive and dangerous means by which humanity may destroy itself.

It is no different for the one who has had the opportunity to observe at close hand, or even from the inside, the most powerful of social mechanisms set in motion by men so far: the war machine, that is to say, all of the administrative techniques and military and economic means which a modern state employs when it makes war. Nothing can exceed the feeling of the powerlessness of the human will induced by contact with such a machine. And this impression is stronger still when one approaches the central part of the mechanism which encloses the main spring. We discover with amazement that the machine, independently of the will of individuals, and of its own movement, continues its march in a determined direction as a result of its first impetus and its own mass. This is what may seem strange: does not the subordination to a superior will constitute precisely the substance of military hierarchy? But, the army itself is only a cog, one of the lesser ones, of the modern war

machine. Moreover, from the tool it was, it is becoming more and more a machine.

The army man who takes part in field operations is not always aware of all this. On the one hand, it may be that some personalities play a certain role here through the orders they give. On the other hand, the one who commands, as well as the one who executes, is generally beyond the point of perceiving the difference which separates the staff plan from its execution on the spot—and this is sometimes an abyss. These reservations do not always apply to the war machine as it functions in the daily military routine and upon which, however, in the final analysis the decision depends. For in the era of total war too much attention need not be paid to the plans of the General of the Army or to the orders of the lieutenant. Which war machine can be maintained longest in a functioning state? We well know that the answer to this question will decide the issue of a total war. When we see what happens day after day in thousands of offices, the illusions that the General of the Army and the lieutenant have about their own importance are soon dissipated. Anyone who has relations with these offices will agree sooner or later. The machine is too large and too heavy for a rational and conscious will to be imposed upon it and direct it. It follows its own path without regard for people, according to its laws and towards its own ends, which are located beyond the sphere of human will and knowledge.

The problem of direction and management is more important here than that of ownership. On this point all gigantic organizations, whether they be public or not, suffer from a fundamental vice resulting from the single fact of their hugeness. **Beyond a certain dimension, it becomes impossible to direct things and men by a single will from above.**

As a result, the balance is tilted by that mysterious collective force for which there is no better comparison than the inertia of a solid body.

That which is valid for the parts is even more valid for the gigantic whole of society. Our times call to mind the image that the paleontologists give us of the disappearance of the great Saurians toward the end of the Tertiary Period: gigantic bodies with small brains which were finally powerless to help these animals adjust to new conditions of life.

The gigantism from which our period suffers has taken, instead of biological forms, social forms which are even more complicated and subtle. But basically the same evil is involved: the directional apparatus is faulty. Thus, it appears in the last analysis that humanity is drifting toward a destiny that no human being wants—cannot want because as a last resort he could not even imagine it. What he suspects is possible fills him with anxiety, and this anxiety rushes him even more quickly toward the abyss.

Some contemporaries with particularly fine sensitivity, who are dizzy from the knowledge of this situation, often interpret it as if we had penetrated into a period which already does not belong to history.

Bertrand Jouvenel, as far as I know, has been the first to express this thought. He doubtless understood by it the same thing another Frenchman, the mathematician Cournot, envisaged in creating about a century ago the expression "post-history." Cournot intended to characterize thus the situation that is produced when some invention or some human organization has been so

perfected that all previous morphological evolution seems excluded. The very penetrating theory of Cournot (which established, among others, the concepts of morphological stabilization and of archetype), in which people have since been too little interested, could be applied to the present situation to justify the conclusion that our civilization is now accomplished, having become "archetype" and having thus entered into a phase where it no longer has any meaning. Then there would be no other alternative, if one views things biologically, than death or mutation.

What Spengler understood by an existence "outside of history" differs essentially from what Jouvenel and Cournot visualized. By post-history we could not mean the lethargy of a civilization whose vital force is extinguished, but the entry into a phase of world destiny which can no longer be inserted in the framework of history because the relation that one can otherwise establish historically between causes and effects is lacking. It is of the very essence of historical science to consider and to present coherently events which form the destiny of humanity. When the events themselves seem to be deprived of meaning, history has reached its limits. History is a product of the human spirit, developed so that events could be measured on the scale of aims and human forces. In the case of events like those we live in today, it seems that this can no longer be the case; and this feeling is at the base of the impression we have that "time has reached an end," that we have entered a period outside history—the world outside history that Hamlet saw for an instant in the mirror of his misguided spirit: **a dislocated world.**





#### PATRONS

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