The Split and the Structure

The arts, the sciences, and cultural life quite in general have to cope with a social and political problem that seems to resist a sensible solution all over the world. Wherever one looks and whatever one reads in the newspapers, the dominant subject is the violent conflict between people who do not get along with one another. Whole countries, but even the smallest communities, insist that their vital interests, their historical or religious traditions, and their present needs require them to be left alone. To live with their neighbors or to live under the same roof makes for insoluble conflicts. One argues, one shouts, one fights and murders. The world threatens to break up into particles, because there seems to be no other way out. The only safe way to survive begins to look like the towers of San Gimignano.

On the other hand, however, to do things in common is of obvious advantage and indeed a vital necessity. Countries make treaties to provide mutual help and to exchange goods. Trade barriers and border controls are cautiously lightened. Companies merge across the oceans. In the schools, the study of local cultures is supplemented with that of others abroad. Religious denominations look for common principles. Families help each other. Communication and cooperation is becoming more indispensable every day.

But how to reconcile these two contradictory tendencies? What we observe around us is distinctly discouraging. Few people seem to believe that one can bridge the opposite interests invested in clinging to separation and attaining union. The selfish and emotional motives of such narrow-minded behavior are all too obvious.

Much less attention has been paid to an equally influential difficulty, a problem of thinking. The human mind finds it more difficult to deal with complexity than with separate, single objects. Opposites are more aggravating than conformities. This makes for cognitive problems I propose to discuss in the following.

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One practical solution of the dilemma, often praised as particularly democratic, is compromise. In daily life, this is indeed acceptable. If my partner likes to walk fast but I need to walk slowly, we can settle for a medium speed—provided the concessions do not touch the core of our physical and mental requirements. More often, however, a compromise forces the partners into a structure that does not add up to a whole. It impairs one person to the advantage of the other, and vice versa. This may provide the incentive for creating a genuine new whole, but in and by itself it is a mere shotgun marriage of separate structures, each consistent within itself but leaving in their fusion an unremedied flaw. The strivings of each partner are disturbed or impeded by those of the others. The tension created by the discord may lead to a more unified whole, but it may also produce an explosion. Obviously, the desirable and more interesting solution is one in which the needs of all partners are fitted to a whole, leaving them without unresolved tensions.

This theoretical problem has been the central concern of such scientific developments as gestalt psychology. It raises practical situations to a level of abstraction at which the needs of the partners appear as directed tensions, that is, as vectors in a system of forces. From the beginning, such forces are never isolated. Their most basic striving, in the physical as well as in the psychological realm, moves toward a structure that obeys one basic condition. It wants to arrive at an optimal equilibrium, in which all vectors hold one another in balance to obtain a stable overall situation. This drive involves the tendency to attain the ideal structure at the simplest level compatible with it. A good gestalt is precisely such an ideal state. It is a configuration or pattern of entities operating at maximum efficiency. Psychological theory investigates the principles by which a gestalt achieves its optimal state of balance; it also explores the factors interfering with it.

The ideal state is most successfully approximated in the biological realm by organisms and in the psychological realm by the mind's highest aspirations in utopias or in works of art. In political practice, this state is never reached or even much thought about in earnest. The most admirable attempt to relate a social utopia to what actually takes place in the lives of nations is Jean-Jacques Rousseau's *Du contrat social.*[1] What he describes as the common will or popular sovereignty is the closest equivalent to the abstract realization of a good

gestalt. As I try to sketch social organization as an ideal structure, I am thinking of Rousseau's basic approach and many of his examples, even though his method differs from mine.

My attempt follows a recent study in which I derived a theory of composition for the visual arts from the general principles of structure.[2] Since these principles are abstract, they apply to any kind of organization. While focusing on the arts, I was alerted to analogies with social institutions, because by looking at an artwork one comes to see it not as a conglomeration of innumerable units, each separated from the others by its demands, powers, and attitudes, but as single configuration of directed forces. In the ideal case, these forces constitute one unified structure. In less integrated states, the whole may be beset by hiatuses and inconsistencies.

This is an unrealistic view, but it makes one look beyond politics committed to the particular aspirations of continents, nations, and individual parties of all sorts. If instead one considers the problem of structure in general, the striving toward a total, organized whole is revealed as a manifestation of a general law of nature that brings benefit when obeyed and damage when counteracted.

A first property of a structure is its range. How much space does it occupy? This is not merely a matter of geographical extension. Rousseau notes that "there are certain limitations for constituting of a State, to which, if it does not adhere, it ceases to be at its best. If it be too large, it cannot be properly governed; if too small, it cannot support itself" (bk. 2, chap. 9). The range of a structure is determined by how much it needs and can accommodate for its best functioning. When it stretches over more space than its resources can organize, or, conversely, when it is too restricted to properly unfold, the disproportion will lead either to an overly thin texture or to a stifling of its performance. In the latter case, it threatens to burst or to invade territories not free for occupation.

The available space, held by interacting forces, may seem to call for being organized by a single structure. Particularly this is the case when, in the words of Paul Valéry, "le temps du monde fini commence" (the time of the completed world begins).[3] A world in which everything depends on everything else needs a single overall structure. Such a structure, however, may suffer from tension-producing faults, which make separation preferable. The resulting separation may be total, or it may require a network of partial interactions with

neighboring structures. The functional range of a structure may not coincide with its geographical expanse and not even with its own practical reach. When a civil war between Islamic and Christian forces upsets Algeria, France, still intimately connected with the former colony, cannot afford to ignore what is going on across the sea. On the other hand, medieval city-states, in spite of their proximity, fought each other as enemies. Even in the minds of many modern citizens, such as Mediterranean populations, the structure of their life space does not reach beyond the limits of the local community. The authorities at the nation's capital remain foreign, hostile powers, whose impositions and demands are either ignored or resisted. In Germany, after the collapse of the Nazi regime, the only functional structure remaining among the ruins was the family, struggling to take care of its own needs and defending itself against an outer world of threats. In ancient Athens, the give and take of the community excluded the slaves, who served as a mere resource. Even so, no structure can afford to act as a separate entity as long as it is subject to antagonistic or alien forces within or beyond its borders.

The best solution comes from the given structural conditions, not from arbitrary impositions. Boundaries between entities should derive as necessary splits between their structures. Rather than being confined by fiat, structures should confine themselves. According to Chuang Tzu, the cook of a Chinese prince explained to his master that a good cook never has to sharpen his knife, because when he has to carve the meat of an ox he puts his hand on it, presses with his shoulder, his foot, and his knee, and right away the skin splits and the knife slides smoothly between the natural sections of the body. "Excellent," exclaimed the prince, "I have heard the words of a cook, and I have learned how to deal with life."[4]

Any structure is made up of directed tensions. The interplay of these vectors creates the network of relations, which the structure weaves into a whole. The strains of energy interact within the structure and balance it. The balance of all vectors aims at limiting it to the minimum of tension it can afford. But not all vectors are constructive. Some act destructively. They disturb the structure by applying at the wrong place, at the wrong strength, or in the wrong direction. They upset the balance of the whole and create tensions straining for adjustment. They are the stuff of unrest, revolution, or earthquakes, which in the long view may be welcomed as attempts to straighten the way for a more constructive state of affairs.

Another feature of structure to be considered here is growth. Just as it is natural for organisms to grow physically, the mind aspires to make things get bigger. Acquisitions, however, become a productive gain only when they are properly integrated with the structure. Therefore, anything added to a structure is first of all a problem to be solved. Immigrants are an acquisition that may eventually enrich a country's structure, but in the beginning they are a problem. The acquisitive drive of a collector or of a colonial power makes for nothing better than an accumulation of properties, unless and until the structure is transformed into the larger whole containing and absorbing the new parts as necessary components. Growth simply for growth's sake, growth just to keep production going, is a purely commercial ideal, not compatible with the health of the structure when it overburdens the structure with more resources than it can use. The question is always: How much growth can we afford? How much growth do we need?

Growth goes with change, and change again is not merely quantitative but qualitative. In the pursuits of the mind, new discoveries and inventions keep the structure in a continuous flow of transformation. This prevents the development from proceeding in a straight line. There are leaps and retardations, obstacles and shortcuts. When in a study of Picasso's painting *Guernica* I analyzed the single sketches and phases in their temporal sequence, I had to face the artist's skips from conceptions of the whole composition to explorations of details, from returns to earlier stages to anticipations of the final solution.[5] Picasso also searched among various styles to present the same object. Only by a survey of the whole creative process could I realize how the gyroscope of the work's structure steadied it to maintain its overall consistency.

Psychologically as well as physically, every structure is focused on a center. In the simplest case, the center is provided explicitly by a person, an agency, or in the organism by a nervous system. The central ruler controls the functioning of the whole, which holds the entity together and in balance.[6] More commonly, each component of the whole has its own capacities and idiosyncrasies, and the art of obtaining perfect functioning consists in placing and employing them all in such a way that their role is in keeping with the free display of their nature.

A good artist accomplishes this feat in his work as an uncontested autocrat. He invents and arranges his material in such a way that no

destructive vectors cause inappropriate constraints and distort the structure. In the political realm, tyrants are rarely that skillful or that considerate, because such a ruler is himself too much a part of the score he is conducting. The ideal ruler is rather like a chess player who empathizes with the tasks and risks of the individual figures but directs their moves from above and outside the board, always with his eyes on the objective to be obtained by his team.

An active center makes for the easiest and most persuasive kind of structure. One knows who is in power, to whom one can apply, and who is to blame. A religion centered on a personal deity satisfies elementary thinking. But the organizing power of a structure may not reside in an actually given agency. Sometimes, works of art such as paintings do indeed present an explicit central figure or object, which determines the composition of its surroundings. But the center may also be empty. In that case, the central function is met collectively by the configuration of the vectors making up the whole. The totality of the individual arrows and weights creates a balance that determines its center without giving it an occupant. By reference to the center's virtual presence, each part defines its own place and function in the whole.

Such an organization requires a higher level of intellectual understanding than does an autocracy. Authority is not imposed by a central agency. It comes about only by the cooperation of all. Socially, such a system needs not only the active participation of all citizens; they also must be trained in their rights and duties and become acquainted with the issues to be decided by them. The knowledge, beliefs, and strivings of the citizens act as traits of the vectors in the structure. Rousseau says that "if there were a nation of gods, it would govern itself democratically. So perfect a government does not suit humans" (bk. 3, chap. 4). It may be impractical, but to strive for it is nevertheless desirable.

Theoretically, the total expanse of the field—in our case the entire planet—is governed best from a single center. It makes sense that areas depending on one another should regulate their interrelations by one overall system. Such a unity, however, is not only hard to obtain, it is also threatened by monotony. Although an all-embracing structure does not exclude the variety of the parts, it tends to suppress it, because every structure is pervaded by the powerful penchant toward simplicity and parsimony.

Every part, however, is a center of its own, ruled by its own organization. Properly balanced, therefore, a confederation of centers must give each member enough independence to flourish in its own individual fashion. At the same time, it regulates the give and take of each by the stewardship above.

Under pathological conditions, the partners act as rivals threatening to overpower each other or at least to compete. This makes the structure expend an unhealthy amount of energy on means of defense, which ought to be spent on the productive development of each and every unit. This is why any competition hampers the best functioning of a structure. To be sure, competition enhances activity, but it also distorts it by making people strive for a maximum achievement rather than the most suitable kind and degree of it. The healthful functioning of the human body, for example, is not served by athletic competition, nor does a commercial enterprise do its best for the community by trying to outsell its rivals. Any structure should reserve its resources for what is required by its own optimal state rather than waste them on unbalanced relations with its neighbors. Such a pathology upsets the give and take between countries. An example may be when one of them drains its energies by the consumption of addictive drugs, and this, in turn, distorts the economy of other countries by making them concentrate on the production of the drugs. Destructive vectors in one center of the structure are counteracted by equally destructive vectors in other centers. Such a skewed balance harms the whole as well as its parts.

Structures differ in the level of their dynamics. They may be in a state of tranquillity or at some level of agitation. In the arts, the level of arousal distinguishes Gluck's music from that of Beethoven or the Parthenon from a Baroque building by Borromini. At each level of dynamics, a fully successful organization can be achieved. A quiet folksong can be as perfectly structured as the breathless commotion of a Bach fugue, and the low level of change in one nation or one single family may make for as perfect a functioning whole as the restless turnover in another.

I hope to have shown how difficult it often is to overcome the narrow perspective of a social unit, a group or an individual, faced with the cognitive and emotional task of seeing its place and function in the whole structure. It is natural enough to be conscious of little but one's own needs and desires and to look egocentrically at the rest of

the world as means of serving one's own dynamic "vectors" and as an array of obstacles to one's freedom. Rousseau asked, "how can a man be free while he is subject?" In his essay on the concept of democracy, Max Wertheimer refers to a one-sided notion of the freedom of the press. "There are instances in which the principle of freedom of the press is used simply as a special case of freedom of business enterprise, of the right of an individual to make profits. Combine it with the principle of free speech, free self-expression, and, if only these two are taken into account, the result may be emphatic assertion of the right not to be bothered."[7]

If one has not learned how a structure is held together by the interaction of its components in the whole, one sees instead a mere agglomeration of pieces, each self-contained in its competitive struggle with the others. One may try to cope with this situation by proclaiming equality for all—equality, however, in the primitive sense of allotting the same to everybody, thereby ignoring the variety of abilities and needs that distinguishes people from one another. The result would resemble the distressing sight of a tract of row houses.

The common practice of running a democratic country is again that of treating it as a collection of pieces. One copes with the problem of a large population by governing through majority vote. This may be the only solution available, but it remains a makeshift, just as does compromise, to which I referred before. It is not obtained by cooperating to work out a structure satisfactory to the whole community, as is aspired to, for example, in Quaker meetings. Instead, one forces the needs of the minority into submission. Such repression creates destructive tensions.

What, then, is freedom? Obviously, it does not consist in everybody being allowed to do what he or she pleases. Nor can the constraints needed for the functioning of a community be left simply to the individual units, which do whatever they can get away with and use the powers they can master to fight their rivals. Instead, only the structure of the whole can determine the range of unhampered breathing space and action due to each component. Just as a chamber music player learns to express himself freely within the role awarded to him by the composition, and just as every element of a good painting looks free, but happily useful at its place on the canvas, an ideal social structure distributes its inherent dynamic tensions not by destructive repression but by the free functioning of all.[8]

It remains for me to point out that the requirements of structure serve also as a guide to ethical behavior. It is true that the rules of conduct may be decreed from above by religious or secular authorities. But when one looks at what such commandments call for, one finds that many of them aim at a well-structured community. These same objectives have been on the minds of thinkers through the ages. Whether they define the target as human happiness or as the perfectible resources of human nature, the aims of morality are surprisingly similar through time and space, because they derive basically from the requirements of the one human nature. Good and bad, virtue and evil are criteria for prescriptions of how to attain a workable social structure.

What has the foregoing discussion suggested for the relation between the split and the structure? We live only too obviously at a time when the split is more evident than the structure. Bloody wars between political and religious enemies destroy whole countries and threaten the peace of whole continents. Foreigners and immigrants are attacked by inhabitants. In governmental bodies, parties try to defeat one another rather than to cooperate. In education, a narrow-minded pluralism advocates a piecemeal dealing with as many nationalities and races as possible instead of striving for a coherent image of the highest achievements of humanity anywhere. On the other hand, powerful political or economic forces produce fusions that undo sensible divisions and necessary distinctions.

All the more important does it seem to be to realize that all the many active forces strive for the creation of structures, however selfish and short-sighted the approach may be in individual cases. Experience also tells that no solution puts conflicting tensions to rest until a workable balance has organized the whole. We know that it is in the nature of ideal solutions to lie beyond the vanishing point in the infinite. But unless we steer toward perfection, we are bound to fumble in the void.

NOTES

1. Jean-Jacques Rousseau, *Du contrat social ou Principes du droit politique* [1791]. Transl. *The Social Contract* (New York: Collier Macmillan, 1947).

2. Rudolf Arnheim, *The Power of the Center*, new version (Berkeley and Los Angeles: University of California Press, 1988).

3. Paul Valéry, *Regard sur le monde actuel* (Paris: Stock, 1931), 35.

4. Chuang Tzu, *Basic Writings* (New York: Columbia University Press, 1964).

5. Rudolf Arnheim, *The Genesis of a Painting: Picasso's "Guernica"* (Berkeley and Los Angeles: University of California Press, 1962).

6. Arnheim, *The Power of the Center.*

7. Max Wertheimer, "On the Concept of Democracy," in Mary Henle, ed., *Documents of Gestalt Psychology* (Berkeley and Los Angeles: University of California Press, 1961), 46.

8. Rudolf Arnheim, "A Plea for Visual Thinking," in *New Essays on the Psychology of Art* (Berkeley and Los Angeles: University of California Press, 1986).