FOUNDATIONS OF SOCIOMETRY*

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(In an era when many sociometrists, to use a phrase from Peter Mendelson's article below, have become "disinterested technocrats ignorant of the underlying philosophy," we feel Moreno's basic exposition of his ideas continues to merit reading.—Ed.)

THE PROBLEM

The discovery that human society has an actual, dynamic, central structure underlying and determining all its peripheral and formal groupings may one day be considered as the cornerstone of all social science. This central structure—once it has been identified—is either found or discernible in every form of human society, from the most primitive to the most civilized: it is in the genesis of every type of society. In addition, it exerts a determining influence upon every sphere in which the factor of human interrelations is an active agent—in economics, biology, social pathology, politics, government, and similar spheres of social action.

It seems to be established beyond any reasonable doubt that the tele factor, the social atom (with its specific types of patterns), the stages which are intermediary between atoms and more inclusive configurations, the psychosocial networks and their patternings, the principle of socio-genetic evolution —all these have always been operating in human society and will continue to do so. These concepts and structures have been either isolated or demonstrated by methods called "sociometric." Every other genuine method bent upon the study of social processes should be able to verify their existence.

In the past, as long as the individuals composing a human society remained passive agents—more or less immobile entities, carried hither and thither by fate or circumstance—these key structures could not be found. Per se, they do not become manifest in a human society. A reagent—a catalyzer—is necessary in order that they may be brought to view. This catalyzer is, on the social level, the spontaneity of all the individuals in the given society. Up to the advent of sociometric exploration of human society, we had seen the social scientist himself beginning to come into contact with the life-situation which was to be explored, but the subjects—the material of the

* From *Sociometry, Experimental Method and the Science of Society.* Beacon, N. Y.: Beacon House, 1951, p. 135ff. The original article, dated 1941, bears the subtitle, "Concepts and Experiments with Rumors."

investigation—had been left out of any participation in the study of this, their own life-situation. This meant shutting off the spontaneity of the subjects—the most important source of information. In other words, the methods used to explore the subjects were those which had been successful in physical, chemical, geological, and astronomical exploration, for example, where—metaphorically speaking—the spontaneity of the subjects studied did not enter into or disturb the experiment. But in human interrelations and in human society, the spontaneity of the individual is the alpha and the omega, the crux, of every social situation and of the whole experiment.

The task of the social scientist is to invent adequate instruments for the exploration of a chosen domain. On the level of human interrelations, this domain is made up of the interactive spontaneities of all the individuals composing it. Therefore, the task of the social scientist becomes the shaping of instruments in such a fashion that they are able to arouse the individuals to the required point on a scale which runs all the way from zero to the maximum. But individuals cannot be aroused—or only to an insignificant degree—by undynamic and automatic means. The individuals must be adequately motivated so that they summon from the depths of their beings the maximum of their spontaneity. Thus, the invention and shaping of methods for social investigation, and the stirring up of the actions, thoughts, and feelings of the people on whom they are used, must go hand in hand.

Finally, knowledge of the central structure of human interrelations is essential to any general planning and construction of human society. In fact, this was well-nigh impossible as long as the key structures remained unknown. Man believed that the genesis of society was outside his province—even more so than the genesis of personality.

Sociometry opened up a new possibility of genuine planning of human society for the reason that the factors of spontaneity, the initiative, and the momentary grasp of the individuals concerned were made the essence of the method of exploration and of the investigation itself. In a sociometric system, the essence of every process of planning is *total spontaneity*—not, as heretofore, the spontaneity of a small number of leaders or individuals chosen at random. The total sum of the individuals, by means of their spontaneities, becomes operative in determining every direction of planning and, in addition, in the selection of every key individual or leader to whom a certain function or action is to be entrusted. Thus, all the peripheral actions and functions—on every level between the periphery and the center—remain under the continuous or recurring control of the key or central structure. The new philosophy of human interrelations, sociometry, gives us a methodology and guide for the determination of the central structure of society and the evocation of the spontaneity of the subject-agents, and these two

factors together supply us with a basis upon which the planning of human society may be undertaken.

HISTORICAL BACKGROUND

It was during the first World War that the idea of a sociometry, in conjunction with a modern, revised theory of spontaneity,[1] had its first expression. Sociometry developed at a moment which had no precedent in the history of mankind—at a moment when, notwithstanding all the advances man had made, the utter futility of his efforts had become evident as being largely because of these advances. In spite of all the magnificent edifices which he had erected so industriously, man saw himself slipping back to the primitive state from which he had begun his rise.

The technology of machines and tools was perhaps the first phenomenon to shock man out of his roseate dream of progress ad infinitum, but the effect of technology upon the spontaneity of the human organism was not studied and remained, therefore, uncontrolled; its influence within our social structure had remained unadjusted. It was realized, then, that the foundations of human society must first be uncovered before any extra-human superstructure (such as machine technology and the technology of cultural conserves) could be fitted to them.

My first definition of sociometry was, in accordance with its etymology, from the Latin, but the emphasis was laid not only on the second half of the term, i.e., on "metrum", meaning measure, but also on the first half of the term, (i.e., on "socius", meaning companion). Both principles, it seemed to me, had been neglected but the "socius" aspect had been omitted from deeper analysis far more than the "metrum" aspect. The "companion", even as a problem, was unrecognized. What remains of a society to be investigated if the individuals themselves and the relationships between them are considered in a fragmentary or wholesale fashion? Or, to put it in a positive way, the individuals themselves and the interrelations between them, in toto, cannot be omitted from any study of a social situation. Can the foundations of human society be reached and, perhaps, uncovered if we do not begin with that aspect of human interrelations which all types of human society, from the most primitive pattern of the past to the most complex pattern of the future, must have in common—the patterns of relationships which human beings form with one another and which persist underground, regardless of what religious, social, political and technological structure is superimposed upon them and rules on the surface?

[1] See the section on the General Theory of Spontaneity and the Cultural Conserve in "Mental Catharsis and the Psycho-drama," by J. L. Moreno, SOCIOMETRY, Vol. III, No. 3.

The technological devices which aroused man's deepest suspicion were the products of the printing press, the motion picture industry and, later, the radio; in other words, of the so-called "cultural conserves." Man, as an individual creator, was outwitted by the products of his own brain—his books, his films, his radio voice. He saw himself being more and more replaced by them. He began to look upon himself as a negligible, archaic entity. At the same time, these identical devices revolutionized all previous methods of interhuman communication of ideas, feelings, opinions, news, etc., to an unprecedented degree. These new methods of communication began to play havoc with the old, natural methods of communication whose laws and configurations had not been studied. Now that they seemed to be in danger of being obliterated or, at least, distorted in their functions, their significance, began to loom on the horizon of man's awareness.

The analysis of technological and cultural conserves, especially of the book, the film, and the radio, was thus an important, albeit negative, theoretical preparation for the development of sociometry. This analysis stimulated the projection of constructs as diverse as the category of the Moment, spontaneous creative actions, the category of the cultural conserve, a social geometry of ideas and things, and the original state and situation of a "thing"—its status nascendi. The theoretical ground was thus gradually laid for a positive beginning of a sociometry which was concerned with the patterns of social structures which *actually exist* in human society. The core of a social structure is the pattern of relationships of all the individuals within the structure. Around this core, influencing the configurations of these patterns, are arrayed many levels of stimuli—economic, cultural and technological processes, for instance. A human society which functions without one or another of these stimuli is conceivable, but one cannot conceive a society functioning without some consideration for the individuals themselves and the relationships between them. The core of a social structure is, of course, never entirely separable from these various stimuli; hence, the study of their stratification and their gradual integration with the core becomes an essential part of sociometry.

The original version of the larger sociometric experiment was that the data obtained in any particular research must have, as a frame of reference, the total pattern of human society in order that these data may be useful as a basis for the construction or reconstruction, for the partial or total readjustment, of human society. In order to enlist every individual's interest during the phrase of reconstruction, the social scientist must, of necessity, acquaint himself, in the research phase, with the individuals themselves and the interrelations between them. Analysis and action, social research, and social construction, are interwoven.

THE SOCIOMETRIC EXPERIMENT

It is significant to differentiate between the major experiment in sociometry and the minor experiments. The major experiment was visualized as a world-wide project—a scheme well-nigh Utopian in concept—yet it must be recalled again and again to our attention lest it be crowded out by our more practical daily tasks in sociometry.

We assumed—naively perhaps—that if a war can spread to encircle the globe, it should be equally possible to prepare and propagate a world sociometry. But this vision did not arise wholly out of thin air. Once we had successfully treated an entire community by sociometric methods, it seemed to us at least theoretically possible to treat an infinitely large number of such communities by the same methods—all the communities in fact, of which human society consists.

The ground is still gradually being prepared for the major experiment. Schemes like Marxism, and others, which have attempted world-wide reorganization of human relationships, have been analyzed and the causes of their failure disclosed. Their failure seems to have been due to a lack of knowledge of the structure of human society as it actually existed at the time of the attempt. A partial knowledge was not sufficient; knowledge of the total structure was necessary. We know that, in order to attain this total knowledge, all the individuals in a society must become active agents. Every individual, every minor group, every major group, and every social class must participate. The aim is to gain a total picture of human society; therefore, no social unit, however powerless, should be omitted from participation in the experiment. In addition, it is assumed that, once individuals are aroused by sociometric procedures to act, to choose, and to reject, every domain of human relationships will be stirred up—the economic, the racial, the cultural, the technological, and so on—and that they all will be brought into the picture. The sociometric experiment will end in becoming totalistic not only in expansion and extension but also in intensity, thus marking the beginning of a political sociometry.

It is a fact that the work to date has consisted in minor experiments and studies. Sociometric investigators have turned their attention away from a general experiment towards a more strategic and practical objective—the refining of old methods and the invention of new ones; the study of every type of children's group, adolescent group, and age group; the investigation of communities, closed and open, primitive and metropolitan. The investigators have been concerned with every aspect of a community—the economic, the cultural and the technological—for which there was found some degree of aspiration or expression within the community. At times a project

was carried to the maximum point of its domain, not only exploring the structure of a community but also applying the findings to the community situations and thus relieving tensions and producing social catharsis. At other times, however, possible upheaval within the political administration of a community and resistance on the part of its citizens hindered thorough sociometric experimentation. Cases have occured where the investigator had to be content with gathering only partial data (and this by indirection) because of the low sociometric adaptability of the population under observation, resulting in studies which were only halfway sociometric. In these cases, the findings could necessarily cover only a peripheral segment of a community, and the application of these data to the people themselves was not considered. Nevertheless, a critical survey of all the sociometric studies which have been made to date, evaluating the methods used and the results obtained in all cases, whether completely sociometric or only partially so, would be of substantial assistance in the preparation of more dependable sociometric procedures for future use.

The result of these small scale experiments has ben twofold. On the one hand, they led to important discoveries in the realm of human relations which were confirmed by every new study, and, on the other hand, they made it possible to put together, like a jig saw puzzle, the pieces of sociometric structure which had been found in various communities and get, with the assistance of these miniature patterns, a bird's-eye view of the sociometric foundation of society at large. The greater the number of valid studies in the years to come, the more accurate and complete will be our psycho-geographical model of the world, as compared with the still sketchy and primitive model which is available to us today.

SOME FUNDAMENTAL CONCEPTS

Two theses spearheaded my original program of research in social science, 1) "The whole of human society develops in accord with definite laws"; 2) "A truly therapeutic procedure cannot have less an objective than the whole of mankind." From the point of view of "system" the two theses led logically to the differentiation between Sociometry and Sociatry.

According to Sociometry, society systems are preference or attraction-repulsion systems. This is claimed to be true not only of human, but also of sub-human societies. It also claimed that human preferential systems cannot be examined adequately by the old methods of fact-finding objectivity as statistical methods and observational methods, but that the methods themselves and the instruments derived from them have to undergo a process of *subjectification* in order to return to the researcher endowed

with a more profound objectivity, having gained a grasp of the social processes on the depth level. This new *sociometric objectivity* can well be contrasted with the old *positivistic* objectivity of Comte.

It is due to this striving of sociometric method towards a superior and more complete objectivity that we gave systematic emphasis:

(a) To the study of social structures in statu nascendi (concept of the moment).

(b) To the shift from the gross examination of social aggregates to minute atomistic events, from the macroscopic to the microscopic method of investigation.

(c) To the development of situational sociology (situation and role analysis).

(d) To operation and measurement procedures, and above all,

(e) To a revolution of the relationship between the investigator and his subjects.

They themselves were thus motivated to be and turned into researchers of each other. A community of a thousand people for instance, became animated by sociometric devices to account for their social feelings and possibly to correct them. Sociometry became then, paraphrasing the famous saying of Lincoln: *the sociology of the people, by the people and for the people.* The operation of sociological research became itself socio (mass) centered instead of individual centered.

The status nascendi.[2] The most neglected aspect of social science is the function of the Moment in a social situation or, in other words, the relationship of a social situation to the moment of its emergence. In a philosophy of the Moment there are three factors to be emphasized: the locus, the status nascendi, and the matrix. These represent three views of the same process. There is no "thing" without its locus, no locus without its status nascendi, and no status nascendi without its matrix. The locus of a flower, for instance is in the bed where it is growing. Its status nascendi is that of a growing thing as it springs from the seed. Its matrix is the fertile seed itself.

Every human act or performance has a primary action pattern—a status nascendi. An example is the performance of eating which begins to develop the role of the eater in every infant soon after birth.[3] The pattern of gestures and movements leading up to the state of satiation is, in this instance, the warming up process. With satiation comes an anti-climax. In the case

[2] See *Das Stegreiftheater,* by J. L. Moreno (1923).

[3] See "Normal and Abnormal Characteristics of Performance Patterns," by Anita M. Uhl, Joseph Sargent, and J. L. Moreno, SOCIOMETRY, Vol. III, No. 3, pp. 38-57.

of a very complex human performance, such as in the creative arts, the status nascendi and the warming-up process take place in the course of the process of creation. From the point of view of productivity, the anti-climax for the artist is reached when his creation is divorced from him and becomes a cultural conserve. The last act in a process—the last creative brush-stroke on a painting, for instance—is to us only as important as every other phase in the process. The common misconception occurs when the last act of production or creation is taken for, or substituted for, the whole process and all the preceding phases in the development are ignored. This last act undergoes a still more significant change when the technological process enters into the situation. The finished painting is removed from its place at the end of the course of creation or production and, by means of various machines, technologically reproduced over and over again, thus becoming a cultural conserve.

In the case of a social situation, as a love relationship, for instance, the status nascendi exists when the lovers meet and begin to warm up to one another. The last phase, the phase before the anti-climax, in a love-relationship (marriage, for example) is all too likely to be a stereotype, and in many social relationships similar stereotyped institutions are the end-products, parallel to the cultural conserve stage in a work of art. Moreover, in the contemplation of, say, the marriage relationship between two people, the consideration of all the phases leading up to it is omitted. It is not to be assumed, however, that processes of human relations cease to exist when a cultural conserve or a stereotyped relationship enters the picture. In either case, a new social situation is begun which requires special methods of investigation.

The social sciences have been too much preoccupied with studies of processes after they have become cold. The status nascendi has been neglected. Most of the studies of man-woman relationships occur when the anti-climax has been reached—when the flow of feeling between the man and woman has dried up and the love which brought them together is over. The study of finished products, of cultural conserves and of stereotypes has, of course, its place and its meaning in a system of social science. The preoccupation with them is not surprising. It is much easier to study a relationship when it is finished and established and when it has the deceptive appearance of being an end-result. Perhaps this is why sociology has been chiefly concerned with the study of the tangible structures in society. But it is from the social situations in statu nascendi that the more important inspirations and decisions come. Their deep impress upon all human interrelations has been demonstrated. The problem has been how to get at these intangible, esoteric phenomena—how to study them. It is, of course, im-

portant that they be studied systematically. A human society without these phenomena in statu nascendi would present a lifeless appearance. Therefore, social research which does not give its main attention to these phenomena must be sterile. Any plan for the betterment of society, for the improvement of human relations, is hopeless without them. Therefore, theories and methods had to be found. It is at this cardinal point that sociometric and psychodramatic studies have stepped into the breach. The results to date are meager, it must be admitted, but the road is now open.

A study of human interrelations proceeding forward from their status nascendi, instead of proceeding backward from their end-product, has great theoretical advantages. A study of this sort is able to do away with the dualistic character ascribed to social processes. There is no true dichotomy between, for instance, underlying and surface structures, or between genetic phenomena and symptoms. Just as every cause is a part of its effect and every effect a part of its cause, every underlying structure partakes of the peripheral and vice versa.[4] This is the case if we begin with the status nascendi of a situation and follow its warming up process through stage after stage. Dual constructions such as cause and effect become, then, illogical.

The "Tele" Concept. The tele concept is not a purely theoretical construction. It has been suggested by sociometric findings. The statistical distribution of attractions and repulsions is affected by some esoteric factor. The normal distribution into which practically all psychological phenomena thus far investigated fit is not followed by attraction and repulsion patterns. The trend towards mutuality of attraction and repulsion many times surpasses chance possibility.[5] The factor responsible for this effect is called "tele". It may explain why there are not as many human societies as there are individuals—a situation which is at least theoretically possible—with all social relations the product of individual imaginations. Tele can be assumed to be responsible for the operation of the multiple foci in any relationship between two persons, or as many persons as compose a given social situation. It is dependent upon both, or all the individuals and is not the subjective, independent product of each person. Out of these operations of the tele factor a product results which has the character of an objective, a supra-individual, system.

Although it is clear that the tele factor operates, nothing is as yet known about its "material" structure. It may have some relation to gene structure

[4] On the sociometric analysis of home groups, for instance, we find that *some* relationships on the formal level are identical with those on the underlying level and vice versa.

[5] See "Statistics of Social Configurations," SOCIOMETRY, Volume I, part I, pp. 342-378.

and sexual attraction. It may be that the study of *tele psychology* will provide clues to a better understanding of occult phenomena, as clairvoyance and telepathy.

The Social Atom. As the individual projects his emotions into the groups around him, and as the members of these groups in turn project their emotions toward him, a pattern of attractions and repulsions, as projected from both sides, can be discerned on the threshold between individual and group. This pattern is called his "social atom". It is not identical with the formal position an individual occupies in the group (his position in the family, for instance). It evolves as an inter-personal structure from the birth-level onward. The size of the social atom of any particular individual cannot accurately be discerned unless the whole community or group in which he lives is sociometrically studied. Sociometric casework of a single individual may be tolerated in practice, but we must be aware that some positive or negative tele may exist in reference to him which cannot be calculated unless all the individuals around him are tested in conjunction with him. The social atom is the first tangible structure empirically discernible in the formation of a human society. It is its smallest unit. Sociometric studies demonstrate clearly that it develops different patterns of varying[6] degree of cohesion, normal and abnormal patterns. Thus, an individual can be diagnosed from the point of view of how his social atom is patterned. A community can be diagnosed from the point of view of what types of social atoms are in the minority. A study of this sort may suggest the optimum pattern for a well-balanced community in which this or that pattern predominates.

The discovery of social atom patternings is an excellent illustration of how sociometric ideas develop and change in accord with the findings. The first construction of sociometric concepts, like the social atom, for instance, was intuitive, suggested by slight, empirical material. "Social atom" was first a purely descriptive term for a social configuration which was evident in every inter-personal relation system of a community, but we did not then know what dynamic meaning it had in its formation. Only later did we suspect that it might be a basic social unit.

In an early phase of sociometry, at a time when we were studying group structures from the outside, as participant observers (watching children at play, or sitting in a spontaneity theatre and watching the formation of pairs on the basis of various roles, noting how certain persons assumed a leader position in respect to certain others and how some were able and others unable to begin or end an action), we were able to determine with some preci-

[6] See "Psychodramatic Shock Therapy" by J. L. Moreno, SOCIOMETRY, Vol. II, No. 1, p. 29.

sion the outer structure of the group.[7] But the deeper structure of the group remained undisclosed and, with it, the social atom. Accordingly, the first charting of inter-personal relation systems showed blank areas. When sociometric tests were applied to a formal group in a public school,[8] the findings permitted an analysis of inner structures, percentages of attractions and repulsions, the number of isolates, pairs, triangles, chains, etc. but the social atom could not yet be discerned—not even on the descriptive level—because the tests were limited to the classrooms. The relationships of the pupils to the families, to the neighborhoods, and to other situations in which they were involved were not part of the study. It was not until a still further advanced phase was reached, when a whole community was approached sociometrically, that the social atom became discernible.

Now that we are able to study social atoms both descriptively and in their dynamic differentiations, the earlier structural analysis of a community as being made up of pairs, isolates, etc., looks rather artificial, although, within its limit, it is still valid. From the point of view of the total community structure, a true pair, for instance, cannot exist independent of relationships with other persons. Our previous procedure of structure analysis may, in the course of time, be superseded by the use of more dynamic patternings of the social atom as a more penetrating guide to the depth structure of a community.

The great theoretical advances which have been made as the result of sociometry become more pointed if we consider them in the light of the contributions of two sociological pioneers, von Wiese[9] and Cooley.[10] From the theoretical distinction between von Wiese's patterns of association and disassociation in human relations to the modern sociometric concepts is a long way. Sociometric concepts had to be constructed anew, as inspired by the dynamics of actual situations. Cooley's concept of primary groups comes close to the realities of social structure. But, although social atoms are certainly *primary structures,* they are not "face to face" or primary groups. To be sure, an individual knows "face to face" a certain number of people composing his social atom—they may belong to his family, home or work group —but he may be ignorant or unconscious of the existence of many individuals who feel strongly about him and there may be some individuals about whom he feels strongly but who are, in turn, either ignorant or unconscious

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[7] See *Application of the Group Method to Classification,* by J. L. Moreno, 1932, pp. 98-103.

[8] See *Who Shall Survive?* by J. L. Moreno, pp. 169-191; also the section on Experiment in *Das Stegreiftheater,* by J. L. Moreno mentioned in Note 4.

[9] See *System of Sociology,* by Becker-Wiese, 1931.

[10] See *Social Organization,* by Charles H. Cooley, 1909.

of this fact. In other words, there are primary social configurations, social atoms, psycho-social networks, and others, which are not primary groups.

Another aspect of the social atom which may stand in need of revision is its relation to the findings which have come to us from spontaneity testing of the individuals comprising it. Originally, we constructed two tests, the sociometric test and the spontaneity test. The sociometric test produced findings which suggested the setting up of the concept "social atom", viewed as an attraction-repulsion pattern. The spontaneity test, aided by psychodramatic procedures, produced findings which suggested the construction of an additional concept, the "cultural atom", which was viewed as a pattern of role relations. Now, in reality, there is but one atom. From the point of view of the actual situation, the distinction between social and cultural atom is artificial. It is pertinent for construction purposes but it loses its significance within a living community. We must visualize the atom as a configuration of interpersonal relationships in which the attractions and repulsions existing between its constituent members are integrated with the many role relations which operate between them. Every individual in a social atom has a range of roles, and it is these roles which give to each attraction or repulsion its deeper and more differentiated meaning.