

# UNDERSTANDING SOCIETY AND ENVIRONMENT: -AS A 'SYSTEM'?

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This paper is a partial product of our attempts to demonstrate (a) the specificity of what are known as 'environmental disciplines' of architecture and planning; (b) the problems that have to be faced in considering the applicability of some theories, paradigms or approaches; and (c) the complex epistemological inadequacies of the very concepts of 'environment', 'space', 'organism', etc. (hence the need to 'bracket' such terms in the text).

An earlier version of this critique was presented by E.Teymur in a seminar in University College London in 1975. Most of the points raised here have later been developed in greater detail in N.Teymur, *Environmental Discourse*, (forthcoming).

## INTRODUCTION

In studying socio-spatial reality a prior understanding of some fundamental questions is essential:

- How distinct, how similar and how homologous are social structure and spatial structure?
- What type of framework allow us to see both of them together?
- Would a structural study of one enable us to understand the structure of the other?
- In case it is not possible to start with such a distinction (i.e. social structure/spatial structure), how else can socio-spatial reality be studied?

In pursuit of such a study the initial definitions of society, space, environment, social structure and social system would prepare the grounds, and provide the fundamental conditions, for an understanding of socio-spatial reality. Moreover, most of society-involving studies in architecture, planning and ecology do *assume*, but hardly make explicit, certain conceptions of society. If any use is expected from these studies their key concepts must be criticized and scrutinized.

## 'THE ARTIFICIAL' AND ITS SCIENCES

One significant intervention to the study of 'artificial phenomena' is by H.A.Simon who tries to establish a pradigm based on what he calls, 'sciences of the artificial'.<sup>1</sup> He claims to be using the term 'artificial' in a neutral sense meaning "man-made as opposed to natural,"<sup>2</sup> and goes on discussing the properties, and ways of describing artificial phenomena. A detailed review of

1. H.A.SIMON, *The Sciences of the Artificial*, Cambridge, Mass.: MIT Press, 1969.

2. H.A.SIMON, *The Sciences of the Artificial*, p.4. (Due to the frequency of references to this book, the notes will hereafter consist only of the name of the author and relevant page numbers.)

all his ideas would obviously be beyond the limits of this paper. What this paper will try to do, instead, is to review some of the points that Simon makes about social systems (as an example of artificial systems), and to discuss the implications of this conception for a better understanding (or, misunderstanding) of socio-spatial reality.

Yet, discussions will not be claiming to be interpreting Simons's ideas in their entirety as this would require a larger preliminary discussion on systems theory and fields of studies which Simon continuously refers to (e.g. engineering, biology, computer sciences and psychology).

The objective of this paper is far less ambitious than that. However, since a theory is the product of, and constituted by, a set of concepts, a brief analysis of Simon's central concepts would be useful in locating his position vis-a-vis the theme of the paper.

The main concepts with which Simon discusses his problems are artificial/natural, complexity/simplicity, wholes/parts inner environment/outer environment and state descriptions/process descriptions. These concepts as well as their role in his theoretical formulations will be discussed in the following text.

### SOCIETY AS A SYSTEM

For Simon 'society'<sup>3</sup> seems to be an aggregate of organisations and 'elementary units' (such as individuals, families, tribes). He identifies the organisations and units in terms of their hierarchical inter-relationships.

Most of his arguments which are based on notions such as organism/environment, inner/outer and complexity/simplicity are more-or-less borrowed from general system paradigm. As we will argue below, these notions and their paradigm, when faced with the type of fundamental questions posed below, make it difficult for Simon to provide satisfactory answers to any of them.

- 1) Can 'formal (social) organisations' and 'elementary (social) units' be understood in terms of these paradigms which Simon adopts; and in terms of 'observable interactions' which he seems to have taken as the source of his data?
- 2) Is a correct understanding of social organisations and elementary units possible without an explicit understanding of what society and social structure are in the first place?
- 3) Can an understanding of 'formal organisations' and of 'elementary units' in this way provide us with a sufficient and correct understanding of society as a whole?

However, before discussing these questions, which constitute the main concern of this paper, we must look at some of the paradigmatic problems and assumptions in Simon's text.

3. The concept of 'society' is used in the sense in which it is used in Simon's text as well as in 'social sciences'. The adequacy of such a concept will be questioned later in the paper.

## PARTS AND WHOLES

The central, and one of the most misinterpreted, aspects of the general systems theory is its basic definition of the relationship between *parts* and *wholes*, that is, wholes as being *more* than the sum of its parts. Obviously, depending on the meaning given to this 'moreness' and 'sum' the definition may take on different meanings. The aspects of wholes and parts that are taken to be relevant also make a difference in the 'systemness'. According to Weiss "the information about the whole, about the collective, is larger than the sum of information about the parts."<sup>4</sup> Another possibility is seeing this 'moreness' in the way in which parts are put together, that is, in terms of the type of relationship among them.

4. P.A. WEISS, *The Living System: Determinism Stratified, Beyond Reductionism*, eds. A. Koestler, J.R. Smythies, London: Mutchinson, 1972, p.43.

5. As it is implied by SIMON, p.86.

Whole and part are neither separable from each other, nor does one follow the other in an evolutionary manner.<sup>5</sup> They are related not by correspondence or in a content-container manner, but, by a structural complexity in which each is the condition of the existence of the other elements. A whole is not, as some simplistic theories would have us believe, necessarily an end-result of a process of bringing (summing up of) the parts together. This formulation assumes a 'history' at a superficial, almost chronological sense, as if there is to be a 'beginning' and an 'end' in the constitution of wholes. Yet, 'systemness' of a whole is independent of any origin or goal-state that we may attach to them. Secondly, especially in social systems, it is almost impossible to define parts and wholes in isolation. Neither are they distinguishable as independent entities with clear boundaries. Thirdly, parts of a whole may *simultaneously* be members of *other* wholes. Moreover, what we see as wholes in the first instance may themselves be parts of other wholes.

Diffuseness of boundaries mentioned in the second point above may not be due to our inability in seeing them clearly, but, to the types and degrees of complexity in the relationship between parts. On the other hand, the implications of the third point is significant in our argument about social systems and social structure.

## COMPLEXITY

According to Simon theoretical formulations about systems "refer primarily to the complexity of the systems under view without specifying the exact content of that complexity."<sup>6</sup> By 'complex system' he means "one made up of a large number of parts that interact in a nonsimple way,"<sup>7</sup> and his thesis is that complexity frequently takes the form of hierarchy.

6. H.A. SIMON, p.85.

7. H.A. SIMON, p.86

He then goes on to study various artificial phenomena biological, physical and social, as well as symbolic, systems.

Complexity of systems which underlies, and generates, the observed features of social and cultural life requires explanation, and this requirement first and foremost acknowledges a distinction between appearance and reality.

If Simons's suggestion that we understand the complex world as a hierarchical system is correct, and if unhierarchical complex systems are difficult or impossible to understand, the problem of appearance/reality and observed/underlying structures becomes extremely important. One of the most central questions is where exactly complexity is? Is it a feature of observable phenomena or/and of underlying structure?<sup>8</sup> Is it a feature of organism, or/and of environment? Or, is it a relative, not an objective, category?

8. cf. J.MEPHAM, *Structuralist sciences and Philosophy, Structuralism: An introduction*, ed. D.Robey, London: Oxford U.P., 1973, p.107.

9. H.A.SIMON, p.87.

10. H.A.SIMON, p.108.

By assuming that complexity frequently takes the form of hierarchy,<sup>9</sup> and that complex systems which are not hierarchic "escape our observation and our understanding,"<sup>10</sup> Simon, in effect, makes two suggestions:

only those complex systems which are hierarchic are observable and understandable; (thus, organisations and elementary social units are hierarchic, hence, observable.)

those systems that are not observable and understandable are not hierarchic (thus, as Simon does not tell us whether formal organisations and elementary units are all that society is, it either means that society is observable and understandable on the basis of an observation of the hierarchies in these organisations; or, it means that society is not hierarchic as we cannot observe it as such, that is, as a whole.)

Whatever the case Simon's formulations of complexity, simplicity and hierarchy tell us little about society that is the only unignorable context with respect to which any social organisation can exist, and can be understood.

### COMPLEXITY AND TELEOLOGY

The type and complexity of the artificial environment depends on the type and complexity of the relations between society and its local environment,<sup>11</sup> not, as Simon would have it, on the complexity of the organism (e.g. man or society) which, he says, is a reflection of the complexity of the environment.

On the other hand, Simon suggests to consider a type of hierarchy which is not necessarily identified by a relation of subordination, but by different levels of complexity. Thus, complexity would be reduced as we go down the hierarchy.<sup>12</sup> Yet, the examples he gives do not follow his arguments in that they seem to be related more with the size of the parts (or, elements) than with the levels of complexity.

11. cf. B.HILLIER and A.LEAMAN, *Structure, System, Transformation, Trans. of the Bartlett Society*, v.9, 1972-73.

12. H.A.SIMON, p.87-88.

These problems, in fact, arise with the fundamental assumption of the existence and significance of hierarchy. When complexity is defined in terms of hierarchy, and hierarchy in terms of levels of complexity it becomes even more difficult to see how exactly physical environment can be understood within the paradigm that these assumptions imply. Moreover, Simon's 'complexity' is an atomistic and

13. H.A.SIMON, p.93.

evolutionist one in that he foresees the "evolution of a complex form from simple elements."<sup>13</sup> In this evolutionary process, he says, there are "intermediate stable forms." This last suggestion assumes (a) that there is an ultimate complexity (or, 'complex form', or 'goal-state') to be achieved by a simple form; and (b) that intermediate forms are identified not as 'complex wholes' within an historical continuity, but, only in terms of a presupposed end-state. The fact that (a) society has no end-state, and no 'goals' (hence, cannot be explained teleologically), and (b) any goal which any element of a social formation<sup>14</sup> may have is never fixed, and can change continuously; does not appear in the paradigm that Simon works within and develops.

14. For the concept of 'social formations' see note 29 below.

### HIERARCHY

In social sciences today it is still a subject of discussion whether social stratification and class structure can be explained in terms of hierarchies. Starting with criteria such as race, colour, family background, one finds arguments based on education, religion, rank, authority, etc., as defining characteristics of hierarchies in society. Most, if not all, of these arguments assume two things: firstly, that there is a hierarchical structure somehow and somewhere; secondly, that the nature and levels of hierarchies are identifiable with respect to some external and observable phenomena. Even when the economic factor is taken into account simple economic transactions or interpersonal interactions in business firms are thought to carry sufficient 'evidences' for social hierarchies - in either case without an explicit reference to the society as a whole.

Whilst there can be no doubt that social totality is a complex, and *perhaps*, 'hierarchical', one, it is quite doubtful whether a correct and useful understanding of this totality is possible in terms of a hierarchy defined analytically and empirically, and based on observable features alone. Moreover, it is also doubtful whether one or two hierarchical features would, by themselves, be enough to identify definite social formations. There may, in case we are able to define the latter in terms of hierarchies, be several types of hierarchies which may, as their levels and elements, exist in relation to each other in complex manners.

In this context the concept of 'order of orders' may be useful. According to Levi-Strauss "anthropology considers the whole social fabric as a network of different types of orders.... and all these orders can themselves be ordered by showing the kind of relationships which exist among them."<sup>15</sup> Neither of the social organisations or social units mentioned by Simon, nor any other possible ones for that matter exist by themselves. What is important is to be able to understand the order of orders and relation of relations, that is, what society is all about.

15. C.LEVI-STRAUSS, *Structural Anthropology*, Harmondsworth: Penguin, 1972, p.312.

Observed features of social and cultural life can be explained by and analysis of the forms of "complexity of

16. J. MEPHAN, *Structuralist Sciences and Philosophy, Structuralism: An introduction*, ed. D. Robey, London: Oxford U.P., 1973, p. 107.

17. B. HILLIER and A. LEAMAN: *Structure, System, Transformation, Trans. of the Bartlett Society*, v.9, 1972-73, p. 49.

18. H.A. SIMON, p. 88

19. H.A. SIMON, p. 88.

20. On this distinction, see C. LEVI-STRAUSS, *Structural Anthropology*, Harmondsworth: Penguin, 1972, p. 279f.

the systems which generate" such features, and "it is on the specificity of these relationships that the conditions in which it is possible to understand the observed phenomena, and the methods whereby this can be achieved, depend."<sup>15</sup> Depending on whether hierarchies (or, complexity) are in the order of observable manifestations and/or of underlying structures; and depending on the specificity of these hierarchies our identification of the hierarchic system (e.g. "social hierarchy") differs. In other words, the question of whether the hierarchies in formal business, in administrative organisations, or in social institutions are in any way indicative of the fundamental features of the social order as a whole depends not so much on our 'accurate' analysis of these observable hierarchies as on our theoretical understanding of the social order in the first place. The question, then, is what type of theory do we need in order to be able to understand the underlying structures. In any case, "a model which begins with selected observables and interactions cannot in principle be developed as a theory of the system it represents."<sup>17</sup>

#### ELEMENTARY UNITS OF SOCIETIES

Simon suggests that "business firms, governments, and universities all have a clearly visible parts-within-parts structure. But formal organisations are not the only, or even the most common, kind of social hierarchy. Almost all societies have elementary units called families, which may be grouped into villages or tribes, and these into larger groupings, and so on. If we make a chart of social interactions, of who talks to whom, the clusters of dense interaction in the chart will identify a rather well-defined hierarchic structure. The groupings in this structure may be defined operationally by some measure of frequency of interaction in this sociometric matrix."<sup>18</sup>

It is stating the obvious that people interact in various ways, but it is also true that not all interactions are 'visible'. Social interactions can neither be reduced, as Simon seems to be implying, to simple face-to-face relations, nor can these be measured in terms of a "frequency of interaction." Visible types of interactions may certainly carry some social signification, but, in no way, are sufficient indicators of the social structure *within which*, (and, often, because of which), people interact in the way they do.

Moreover, a designation of 'family', 'village', 'tribe', etc., as "elementary units" of "almost all societies"<sup>19</sup> makes another important assumption. Such a designation is based on density, frequency and size of interactions rather than on the nature, type and level of them. In other words, what matters for Simon in his discussions on social systems is not a preliminary identification of the structural and functional nature of these units, but, rather, their measurable and 'chartable' appearances. Before all else, his descriptions of them tend to confuse 'social relations' with 'social structure'.<sup>20</sup> Social structure should be understood in terms of socio-economic relations, and

relations between these relations (except, perhaps, in some 'primitive' societies). Economic relations, on the other hand, should be seen not as simple relations between things or commodities, but between people. Yet, it should be said once again that socio-economic relations cannot be reduced to interpersonal relations. The difference is important in various ways, yet a further discussion on it would obviously go beyond the limits of this paper. But, if theoretical models of social reality have any effect on our understanding, and on our actions, such a critique is essential. Risking the possibility of some repetition one or two points should be discussed here in some detail.

### MODES OF INTERACTION AND SPATIALITY

"In a formal organisation" Simon says "there will generally be more interaction, on the average, between two employees who are members of the same department than between two employees from different departments." He continues by stating that "in organic substances intermolecular forces will generally be weaker than molecular forces, and molecular forces weaker than nuclear forces."<sup>21</sup> First thing that one notices in this type of argument is the question of which example is meant to support which, and whether there is an apparent and/or structural similarity between them. "Appeal to analogy cannot function as a principle of explanation in the absence of a theory justifying the analogy by reference to similarity of internal coherence."<sup>22</sup> Secondly, while the latter case is a matter to be studied and settled in a physical scientific manner, the assertion of the former seems to be rather problematic. In fact, this type of 'observations' and generalisations pervade most of Simon's arguments on social organisation in a way often resembling a manager's, rather than a scientist's, point of view. The important questions are whether it is possible to derive a knowledge of the structure of a formal organisation by observing the 'intensity of interaction' between employees; and still more important, whether it is possible to arrive at an understanding of social structure from a knowledge of the structure of a formal organisation which, in return, is based on the observations of interactions? First of all, "structures do not arise out of the interaction of individuals or their behaviour."<sup>23</sup> Moreover, as pointed out elsewhere in this paper, these interactions, and the pattern of their intensity may indicate some specific social relations which are only partial manifestations of particular social structures or social orders. But, the latter cannot be equated with the former.

Simon proposes to "identify social hierarchies not by observing who lives close to whom but by observing who interacts with whom."<sup>24</sup> Furthermore he says: "to the extent that interactions are channelled through specialised communications and transportation systems, spatial propinquity becomes less determinative of structure."<sup>25</sup> Yet, these agreeable suggestions seem not to apply to some examples he gives for social hierarchies: Business firms, governments, universities and other 'formal organisations'

21. H.A.SIMON, p.99.

22. J.MEPHAM, *Structuralist Sciences and Philosophy, Structuralism: An introduction*, ed. D.Robey, London: Oxford U.P., 1973, p.111.

23. B.HILLIER and A.LEAMAN, *Structure, System, Transformation, Trans. of the Bartlett Society*, v.9, 1972-73, p.73.

H.A.SIMON, p.90.

25. H.A.SIMON, p.90.

26. H.A.SIMON, p.88.

27. H.A.SIMON, p.88.

28. H.A.SIMON, p.90.

29. In fact, this question itself has quite a dubious scientific status: Assuming society as an 'environment' (in the general systems sense) of some organizations which are themselves 'environments' for several other social interactions, groups and individuals would lead to an epistemological fallacy of *argumentum ad infinitum*, or, at best, to a circular relativism.

The way out of this problem is not simply giving different meanings to the existing words, but most probably *abandoning* or *transforming the terms* within which the questions are formulated in the first place. 'Society' is neither a nutshell (i.e. a container, 'environment'), nor a nut (i.e. a content, 'environned'). It is a complex structure constituted by a set of instances, levels and determinant relations. It is thus better to use a concept like 'social formation' to designate that structure. We can then refer to particular social formations within definite historical conjunctures and with specifiable modes of production. Thus, the negative effects of the generality and ubiquity inherent in the notion of 'society' can be transformed.

Similar problems exist in the term 'environment'. Its 'obviousness', globality and multiplicity are best remedied by avoiding that term altogether, and, by referring to specific phenomena not as 'environment', or as 'environmental', but as specific phenomena.

30. H.A.SIMON, p.103.

31. cf. for example, "In a formal organization there will generally be more interaction, on the average, between two employees who are members of the same department than between two employees from different departments". (H.A.SIMON, p.99).

32. H.A.SIMON, p.87.

33. H.A.SIMON, p.86.

are all said to "have a clearly parts-within-parts structure."<sup>26</sup>

Families are said to be "grouped into villages or tribes, and these into larger groupings."<sup>27</sup> These all have an implicit spatiality or, *propinquity*, in their descriptions. Although Simon is careful to rule out an immediate spatiality, his examples, as in many other cases, assume the opposite, in this case, a spatially propinquous interaction rather than much "specialised communication and transportation systems."<sup>28</sup> As these problems arise out of a particular understanding of social interaction we must see the implications of this understanding.

When *interaction* is reduced to 'exchange of information' (communication), or to 'overcoming of distances' (transportation) various problems arise. Some of the fundamental questions to be answered are:

- Why, and what, do people communicate, and/or transport?
- Are these activities ends-in-themselves, or are they means for certain other, perhaps more fundamental, socio-economic requirements?
- How can communication and transportation be understood without any reference to the exchange relations in the society?
- Are interactions observable only in rather small-scale, and often spatially defined, units? What about the social interactions in a given society between social groups and classes?
- Moreover, can interactions between individuals and small groups be understood without reference to the social order of which the former are only parts?
- Isn't 'society' an 'environment' (in general system sense) of the formal organisations and of other social hierarchies mentioned?<sup>29</sup> If so, how can we relate this to Simon's earlier suggestion that complexity of organism is a reflection of the complexity of environment? What is the complexity of society?

In so-called 'formal organisations' connections between members is said to be achieved by "authority relations."<sup>30</sup> These relations, on the other hand, are realised through communications among members at various levels of hierarchy as well as among groups of members at various departments. Authority relations are therefore presented as an 'interpersonal relationship' in a 'system', if not totally reduced to the former.

When complexity is defined in terms of the density and frequency of interpersonal interactions<sup>31</sup> it becomes rather difficult to conceive of a social structure which is *not* based on chartable clustering of "elementary particles,"<sup>32</sup> but on structural complexity of the whole. The difference is profound both in small-scale organisations and in society as a whole. The former, although admitting that it is "not a trivial matter to infer the properties of the whole" from a given set of the properties of the parts,<sup>33</sup> assumes the possibility of understanding the complexity of a whole from an understanding of the properties of the parts.



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34. Yet, this type of relationship is bound to suffer the negative effects of having an abstract 'Man-Environment' relationship as its constant imposed on physical systems. These effects are not remediable within the paradigm which gives rise to them. (See note 29 above).

35. Despite the assertion Simon makes that "our knowledge of behaviour must be regarded as sociological in nature rather than psychological" (p.35), it is still questionable whether 'behaviour' (individual or social, psychological or sociological) can be the basis of a scientific knowledge about 'society' (let alone about specific social formations) at all.

36. H.A. SIMON, p.25 (all italics deleted).

37. H.A. SIMON, p.25.

38. H.A. SIMON, p.25-26.

39. Domains which are 'commonly' defined, or only assumed to exist, cannot lend themselves to theoretical scrutiny; and each discipline, each science and each practice tends to define them differently. 'Environment' is one of such terms which is assumed to be an obvious object, and is either defined superficially, or is not defined at all. In other words, it is taken for granted, though, of course the negative effects of it cannot!

40. J. MEPHAM, *Structuralist Sciences and Philosophy, Structuralism: An Introduction*, ed. D. Robey, London Oxford, U.P., 1973, p.110.

41. C. LEVI-STRAUSS, *scope of anthropology*, London: Cape, 1969, p.10.

42. A theory is a product of its concepts. A scientific theory cannot be based on unscientific concepts or words borrowed from everyday discourses.

In a rather assertive hypothesis Simon suggests a 'new' type of relationship between 'man' and 'environment'<sup>34</sup>: "A man, viewed as a behaving system, is quite simple. The apparent complexity of his behaviour<sup>35</sup> over time is largely a reflection of the complexity of the environment in which he finds himself."<sup>36</sup> It would be beyond the objectives of this paper to go into a discussion of all the problems that Simon's hypothesis raises. Therefore, only the most relevant aspects of it will be discussed here.

First of all, he asserts that man is a "behaving system": whether he is a "whole man" or a "thinking man."<sup>37</sup> Simon further suggests that "to the extent that he is effectively adaptive, his behavior will reflect characteristics largely of the outer environment (in the light of his goals) and will reveal only a few limiting properties of his inner environment - of the physiological machinery that enables him to think."<sup>38</sup>

Limited with the 'inner-outer' and 'organism-environment' dichotomies these formulations are problematic in several respects:

Despite a rather large and rich knowledge that we have of human body (if that is what is meant within this rather Cartesian separation of 'physiological man' and 'thinking man'), and large, but uncoordinated, knowledge of physical environment, there remains to be a lack of their *theoretical* understanding - that is, in their relationship, and not merely in terms of 'flesh-and-blood', and 'brick-and-mortar'. As "a science of a specific domain is based on the discovery of the specific coherence of its object", and as "before any question of relationship between domains"<sup>39</sup> can be discussed meaningfully one must have a theory of the specific difference which marks off one domain from another...<sup>40</sup> it remains to be seen whether and how it is possible to single out and know "what they are,"<sup>41</sup> that is, all these 'behavior', 'inner environment', 'outer environment', 'behaving system', 'thinking man', 'goals', 'simplicity of man', 'complexity of environment' etc., in the absence of a theory. If these are the terms and concepts of a theory,<sup>42</sup> then it is quite difficult to see the coherence and adequacy of such a theory to its object.

When 'environment' in this formulation is *physical* environment, there is an unavoidable behaviourism and environmental determinism which would most probably follow. When 'environment' is seen as the *organisational* environment, there are all sorts of problems related with organisations and social institutions when they are considered as 'social units' (as have been briefly discussed above).

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Yet, in the case of taking 'environment' in a 'social environmental' sense, Simon's man-environment and simplicity-complexity formulations become more problematic.

43. H.A.SIMON, P.24.

44. 'Indirect analogy' is an analogy in form, rather than is substance.

45. L.MARCH, *Modern Movement to Vitruvius*, *RIBA Journal*, March 1972, p.105.

46. Also quoted by L.MARCH (p.105) from H.A.SIMON, p.25.

47. In fact, there is no simple phenomena to speak of as a unity. "Phenomena is a tissue of relations. There is no simple nature, simple substance, the substance is a contexture of attributes. There is no simple idea...."

(G.BACHELARD, *Le Nouvel Esprit Scientifique*, Paris: PUF, 1975, p.153-3, (our translation).)

48. H.A.SIMON: p.117, etc.

49. As criticized by J.PIAGET in his *Structuralism*, London: RKP, 1971, pp.7-8.

50. The idea that it is the 'individual' which is the basis of study should itself be questioned. This is essential if 'environmental' (?) studies want to avoid the basic pitfalls of so-called 'social sciences', namely, individualism, subjectivism and relativism.

Of course, "this shift of paradigm on our part is possible by assuming first that Simon's own shift from the 'ant-environment paradigm'<sup>43</sup> to the one of 'man-environment'; and from 'whole man' to 'thinking man' was itself possible because man is a social being. In fact, it is only then that the indirect analogy<sup>44</sup> that Lionel March draws between Marx's 'epigram' "It is not the consciousness of man that determines his existence - rather, it is his social existence that determines his consciousness"<sup>45</sup> and Simon's "A man, viewed as a behaving system, is quite simple. The apparent complexity of his behaviour over time is largely a reflection of the complexity of the environment in which he finds himself."<sup>46</sup> comes nearer to be considered as an analogy - yet, with a likelihood of failure, as we will be briefly arguing below: It is difficult to understand how March could misrepresent the former statement which in no way resorts to any behaviouristic or mechanistic determinism as the term 'determine' seems to have suggested. First of all the 'consciousness - social existence' dichotomy is not a separation, or a counterposing, of two opposite entities, neither are 'man' and 'his existence'. Nor do they suggest any degree of 'simplicity vs complexity' of 'man vs environment'. Moreover, that statement nowhere implies a 'man-society' dichotomy comparable to Simon's 'man-environment'.

Scientific epistemology rejects a 'simplicity-envolving-into-complexity' type of explanation, and requires, instead, that complexity should be understood at its own level, as complexity (i.e. complex structured whole).<sup>47</sup> Thus, whatever is 'simple' may not, as Simon would have it, be an 'elementary unit'.<sup>48</sup> Therefore, it is not also the element of a complex whole.<sup>49</sup> To understand society in its complexity is one thing, and to see it as being composed of simple units (i.e. man, family, village, city, etc.) is another.

Moreover, individual - society relationship should not be seen in terms of the way in which "man fits in to, or deviates from, the social order." Society is *not* external to the individual in the first place, but is a complex determinate structure which is not reducible to a basic unit.<sup>50</sup>

There cannot exist meaningful conceptions of man, or of society, when they are defined *separately*. And, when they are understood and defined together, their analyses in a likewise fashion cannot be reduced to determinism, or to behaviourism. On the other hand, the interactions that should be studied in order to understand society are not the observable, interpersonal, intersubjective, or 'interorganismic' relations between individuals, groups or institutions - especially when they are abstracted from their class bases. The interactions and relations that are to be studied are the ones among classes, among distinct structures, elements, instances (e.g. economic, political, physical), and among relations (e.g. contradictions, determinations).

## CONCLUSIONS

The criticisms in this paper suggest that unity and identity of various social interactions, social forms, social organisations, social units, or clusters, should not, as systems theorists tend to do, be sought in the 'visible' social interactions, or clusters of functions or people, alone; but, in the *socio-economic reality that produces these forms and organisations*, and that requires these interactions etc., for its reproduction.

'Society' is an abstract, vague and largely unspecifiable concept. It is partly responsible for most of the pervasive fallacies in our understanding of social and socio-physical reality. It should therefore be replaced by a more specific and *theoretically specifiable* concept, namely, 'social formations'.

Society, then, cannot be seen as "having evolved from simplicity," nor an understanding of complexity necessarily requires a simplification of its description.

It was argued that before any use is made of systems theories in environmental studies their understanding of organism, environment, interaction, etc., should be critically scrutinized. This, it was said, was necessary in order not to confuse the object-and-appearance-based spatiality of general systems concepts with socio-economic reality of settlements and societies in their complex structural relationship.

## TOPLUM VE ÇEVREYİ BİR 'SİSTEM' OLARAK ANLAMAK ?

### ÖZET

Toplum-mekan ya da toplum-çevre ilişkisinin anlaşılmasında bazı soruların öncelikle sorulması yararlı olur:

- Toplum yapısı ile mekan yapısı ne derece farklı, aynı, ya da homolojiktir?
- Bu yapıları birlikte nasıl görüp inceleyebiliriz?
- Birinin bilgisi diğerinden çıkarılabilir mi?

Böyle bir araştırmada toplum, çevre, mekân, toplum yapısı, toplumsal düzen (ya da sistem) gibi temel kavramların eleştirilmesi ve gerekiyorsa değiştirip, geliştirilmesi çok önemlidir.

Bu yazıda böyle bir deneme H.A.Simon'un *The Sciences of the Artificial* adlı kitabının ve de ona dayanan 'çevresel araştırmacı'ların eleştirisinden hareketle yapılmaya çalışılmıştır. Simon genel sistem kuramı çerçevesinde toplumsal ilişki ve kuruluşları, insanın iç ve dış yapılarını, kişi-toplum ve mekan-insan ilişkilerini incelemeye çalışıyor. Kavramsal çerçevesi gözlenebilir türden ilişkilere dayalı karmaşıklık-basitlik, yapay-doğal, bütün-parça, iç çevre-dış çevre gibi ikilemlerden oluşan Simon bu çerçevenin eksikliklerini ve yanlışlıklarını incelediği bütün örneklere taşıyor. Bu arada bir toplum kuramından yoksun

olduğundan, toplumsal olay ve olguları ya benzetmelerle (analojilerle) ya da soyut ilişki şemalarının somut gerçeklere empoze edilmesiyle açıklamaya çalışıyor.

Aslında kuşku nitelikteki bir kavram olan 'çevre'yi hem soyut hem somut anlamlarıyla alıyor. Toplumsal yapı ve kuruluşların mekânsallığını reddederken mekânsallıklarından hareket etme yanlılığına düşebiliyor. Simon'un yaklaşımını kullanan mimarlık kuramcıları da bu tür yanlılıkları aynen almak zorunda kalabiliyorlar.

'Karmaşıklık', özellikle toplum ve çevre konusundaki araştırma ve açıklamalarda önemli yeri olan bir kavram. Ancak mekanik ya da evrimci bir karmaşıklık anlayışı bilim dışı sonuçlara yol açabilir. Simon'un da aralarında olduğu birçok kuramcının karmaşıklığı basitliğin evrimi yada yinelenmesi ile açıklayarak ne toplumu ne de diğer olguları anlamakta başarılı olamadıklarını biliyoruz. Toplum karmaşık, çeşitli ve çelişkili belirleyicileri olan bir yapıdır. Çok sayıda bireyin basit bir toplama toplum değil olsa-olsa bir topluluk ya da gurup tanımlar.

'Hiyerarşi' doğrudan gözlemlenebilecek bir olgu değil, karmaşık toplumsal olguların yapısal bir niteliğidir. Mekândaki hiyerarşiler keskin toplum hiyerarşisini yansıtmaz, tersine, toplum yapısını anlamadan mekan yapısını da 'çevre sorunları' denen sorunları da doğru olarak anlamak olanaksızdır.

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