Analysis of Psychosocial Development

Chapter II
Conceptual Scheme

Richard Jung [1]

Harvard University

Richard Jung.
Analysis of Psychosocial Development:
A Study of Adult, Educated Women.
Chapter II. Conceptual scheme.

A thesis presented by Richard Jung to the Department of Social Relations
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the subject of Sociology.
Cambridge MA: Harvard University, April 1962.
Chapter II, pp. 55-86.

[1] Kouřimská 24, CZ - 284 01 Kutná Hora, Czech Republic; +420 607 587 627, Richard.Jung@post.harvard.edu

📖 55 [2]

Chapter II
Conceptual Scheme

INTRODUCTION

📖 56

Our frame of reference selects from the life histories of educated women for special attention

1. their psychosocial development, and
2. the possible effect of formal education on this development.

The frame of reference must therefore contain a conceptual scheme that provides concepts for

1. the domains and state-variables of the psychosocial system;
2. different kinds of development;
3. stages of development; and
4. formal education and its various possible effects.

The concepts selected for this purpose and their organization constitute our conceptual scheme. They will be described in the order listed above.

THE PSYCHOSOCIAL SYSTEM

The psychosocial system is a set of classes of state-variables whose physical referent is the behavior of an individual organism. It is stratified into domains. The classes of state-variables are syntactically defined as mutually exclusive. The domains are also defined as mutually exclusive. Either set is defined as collectively exhaustive of the system. 📖 57 The two sets are defined as fully interpenetrating, *i.e.,* each domain contains the full set of classes of state-variables. This completes the syntactic definition of the psychosocial system.[3]

---

[2] Original page number in:
Analysis of Psychosocial Development: A *Study of Adult, Educated Women.* A thesis presented by RICHARD JUNG to the Department of Social Relations in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the subject of Sociology. Cambridge MA: Harvard University, April 1962. Chapter II, pp. 55-86.

[3] Since the domains are syntactically mutually exclusive, mutually independent values of the same state-variable in different domains are conceptually permissible. Similarly, the conceptually permissible values of one class of state-variables are fully independent of the values of another class of state-variables. Constraints on this variation of values can be imposed only by an explanation scheme that generates the constraints as propositions, or by a phenomenon

The domains of the psycho-system are (1) the Domain of Need Dispositions; (2) the Domain of Value Orientations; and (3) the Domain of Role Orientations. We use the terms need dispositions, value orientations, and role orientations as Parsons and Shils have defined them.[4] In Parsons' and Shils' usage, the term 'motivational orientation' is nearly always synonymous with the term 'need disposition.' As used by Parsons and Shils, the term 'role orientation' refers to internalized role expectations.

58

We imagine that a set of six mutually exclusive classes of state-variables would provide an exhaustive description of the behavioral state of the organism. Even before we describe these classes, we concede that this is a pure conjecture. However, in this context it does not yet matter, since we are defining our topic of interest in terms of these six classes of state-variables. We speak of classes of state-variables, since we admit a variety of variables in each class. Since this is the case, it is extremely difficult to find a generic term for each class, which would not reflect more the nature of some of the member variables than the nature of others. Since these classes of variables are mutually exclusive and therefore, geometrically speaking, orthogonal, we regard them as expressing the different perspectives or points of view, from which behavior can be studied. In this sense, they could be regarded as dimensions of behavior.

We have chosen the following names for the six classes of state-variables:
1. Generalization;
2. Integration;
3. Adaptation;
4. Fixation;
5. Functional Differentiation; and
6. Manipulation.[5]

---

that produces regularities in corresponding categories of the accounting scheme, which need to be explained.

[4] PARSONS, T. AND SHILS, E. A. (WITH THE ASSISTANCE OF J. OLDS.). (1951). Values, motives and systems of action. In PARSONS, T. AND SHILS, E. A. (EDS.). *Toward a General Theory of Action.* Cambridge, MA: Harvard University Press. Pp. 45-275.

[5] The similarity in the names and in the general conception of the nature of these classes to the four Dimensions of Action Space as formulated by Parsons and Bales is not coincidental. The development of the above system of concepts was inspired by, and is based on, the work of Parsons and Bales. The two systems now differ in many important details, but a discussion of the differences, other than by application to the topic of this thesis, would be inappropriate here.
The two sets of concepts relate roughly as follows:

Dimensions of Action Space	Classes of State-Variables
(A) Adaptation	(3) Adaptation
(G) Instrumental /	(6) Manipulation
(-) Goal Gratification	(5) Functional Differentiation
(I) Integration	(2) Integration
(L) Latency (Pattern Maintenance & Tension Management)	(1) Generalization (4) Fixation

Implicit distinctions within Parsons' and Bales' (G), (I), and (L) categories are made explicit and all six categories are awarded the same status as other categories in our conceptual system.

📖 60

Under the class concept of *generalization,* we group those variables that are descriptive of the formation of patterns, through the establishment of a syntactic relationship between specific experiences. With such variables we would study cultural patterns, such as systems of beliefs (religious, metaphysical, ideological, scientific, etc.), appreciation, and evaluation, but also those processes by which discrete events are related in an individual, *i.e.,* his private syntax.

Under the class concept of *integration,* we group variables relevant to the study of the structure of propagation of influence between units of a system. This perspective would encompass the study of solidarity and antagonism between subsystems, their relative autonomy, and their relative status.

Under the class concept of *adaptation,* we group those variables that assess the properties of elasticity and amplification in a system, the stress it experiences in response to deformations caused by forces acting on it from its (internal and/or external) environment, and the mechanisms used by it to maintain its essential difference from the environment.

Under the class concept of *fixation,* we study the establishment of specific responses to specific stimuli, be they norms, signals, or 📖 61 reinforcements. We also admit inventories of such stimuli as evoke specific responses in an organism, or listings of the repositories of fixators manifest or latent in a culture, under this concept.

From the perspective defined by the class concept of *functional differentiation* we study those partially ordered structures that respond differentially to stimuli and emit responses of varying functional significance for other parts of the system. The study of roles within a social system, and the study of organization (whether social or of an individual organism) is an instance of the application of this class concept.

The class concept of *manipulation* is intended to subsume those variables that we use for the study of work (*i.e.,* application of harnessed energy to the environment), and of the resultant changes in the environment. Normatively regulated expenditure of physical, biological, psychological, or any other kind of energy can be studied from this perspective, as long as it is studied in connection with the concomitant changes in the environment.[6] The magic, art, craft, or technology that harnesses the expenditure of energy is also studied from the perspective of this class concept.

For a comprehensive discussion of the Dimensions of Action Space, *cf.:* PARSONS, T., BALES, R. F., AND SHILS, E. A. (1953). Working *Papers in the Theory of Action.* Glencoe IL: The Free Press. Chs. III & V.

Despite considerable similarity in some respects between the Dimensions of Action Space and the Classes of State-Variables, there are sufficient differences in other respects to make an application of notions, formed on the basis of study of the cited work, to the present system of concepts likely to be misleading.

6 The category of *manipulation* thus provides the perspective necessary for the study of behavior as Action, as this concept is defined by Parsons in his *Structure of Social Action* and in his contributions to *Toward a General Theory of Action.*

🕮 62

The total behavioral system can be (per definition) studied exhaustively only by the simultaneous application of all six classes of variables. Any one class, however, will give us an adequate description of the state of the system from a specific analytic perspective. The comprehensiveness of the description is increased, if we use any combination of several classes. Of the many possible combinations of the six classes, two are of special significance.

The combination of classes (1), (2), and (3) we call the *primary system.* The primary system is thus (per definition) those aspects of behavior that can be studied by state-variables grouped under the classes of generalization, integration, and adaptation. This triple perspective is quite adequate for the study of the distribution of various forms of energy throughout a system, and of their transformations.

The combination of classes (4), (5), and (6) we call the *secondary system.* By definition then, the secondary system is those aspects of behavior that can be studied by state-variables grouped under the classes of fixation, functional differentiation, and manipulation. These classes become necessary when we wish to study the information-control properties of any system.[7]

🕮 64

In a total system the primary and the secondary systems are conceived to be conceptually orthogonal and therefore empirically potentially solidary or antagonistic. Thus the total quantity within a system produced by an increase of quantity along one of the dimensions of the primary system could be decreased by a concomitant increase in quantity along a dimension of the secondary system.[8] This conception is necessary in order to allow for the possibility of compensation by the secondary system of displacements in the primary system, *i.e.,* for self-regulation, the control of the environment, and survival.

A second kind of combination of the classes of state-variables results in three pairs of mutually antagonistic classes. Each pair contains one class from the primary system and one class from the secondary system. Each pair defines a *sector* of the system.

---

7 The distinction between a primary and a secondary system is inspired by Freud's formulation of the primary and secondary *process* and is partly intended as a generalization of his formulation. Again there are similarities and differences that need not concern us here.
For Freud's formulation of the two processes, *cf.*: FREUD, S. (1900). *The Interpretation of Dreams.* Chapter VII. In: *The Standard Edition* of 1953, Vol. 4, London UK: Hogarth. Also: FREUD, S. (1911). "Formulations regarding the two principles in mental functioning." In: *Collected Papers.* 1948 edition, Vol. 4, pp. 13-21. London UK: Hogarth.

8 It seems possible to conceive of a structure where orthogonal and inverse relationships between some of the dimensions would exist simultaneously. In an addition by the Pythagorean theorem in such a space, positive quantities on the inverse dimensions would yield square roots of negative numbers, *i.e.*, imaginary numbers. Such inverse orthogonal dimension appears as the time coordinate in the four-dimensional space-time formulated by the general theory of relativity.

Sector (i) is defined by classes (1) and (4), *i.e.,* generalization and fixation.

🕮 *65*

Sector (ii) is defined by classes (2) and (5), *i.e.,* integration and functional differentiation.

Sector (iii) is defined by classes (3) and (6), *i.e.,* adaptation and manipulation.

In an earlier study,[9] I have discussed the possibility of defining in these terms the sectors of a system whose physical referent is an aggregate of individual organisms. Each combination of two perspectives on the system appears to represent the analytic point of view taken, when we study such a system as:

(i) A cultural system,

(ii) a social system, or

(iii) a civilization.[10]

Perhaps sectors of the psychosocial system of an individual organism could be similarly defined. Thus we would distinguish between:

🕮 *66*

(i) The character sector;

(ii) the personality sector; and

(iii) the coping sector, which would include most mechanisms of defense and adjustment.[11]

The concept of the psychosocial system and its syntactic definition, the syntactic definitions of the domains, the sectors, the primary and the secondary system, as well as of classes of state-variables are summarized in Table 1.

---

9 JUNG, R. (1956b). "On a conceptual approach to small group laboratory research." Unpublished paper. Cambridge MA: Social Relations 248a, Department of Social Relations, Harvard University.

10 The study of the cultural sector would consist largely of the study of patterns and of specific internalized norms and effective stimuli and reinforcements. The study of the social sector would analyze structures of influence, solidarity and antagonism, as well as division and organization of functions. The study of the civilizational sector would be concerned with the analysis of economic and technological behavior, broadly conceived.

11 In current American psychological usage, the term personality is used as synonymous with our term 'the psychosocial system.' We wish here to restrict the meaning of this term to its most frequent usage, *i.e.,* the description of the integration and differentiation of the psychosocial system.
Cf.: SANFORD, N. (1961). "Personality: Its place in psychology." o be published in: KOCH, S. (ED.). *Psychology: A Study of a Science.* Vol. 5. New York NY: McGraw Hill. The term character is well established, in the sense defined here, in older English and current French and German usage. *Cf.:* ENGLISH, H.B. AND ENGLISH, AVA C. (1958). *A Comprehensive Dictionary of Psychological and Psychoanalytic Terms.* New York NY: Longmans, Green.
It is difficult to find a term that characterizes the perspectives used when we study behavior in its manipulative aspects, as well as the modes of response to strain and well-being. Most studies of problem solving behavior involve this perspective. Part of what is called intelligence is behavior viewed from this perspective, while another aspect of intelligence relates to the class concept of generalization. The term coping was adopted since it is neither preferentially suggestive of activity or passivity; nor of control, adjustment, or defense.

📖 67

Table 1. Syntactic definition of the concept "The psychosocial system."

THE PSYCHOSOCIAL SYSTEM			*Mutually exclusive domains of*		
Mutually inverse analytic subsystems	Sectors	Mutually exclusive classes of state-variables	**Need dispositions**	**Value orientations**	**Role orientations**
Primary system	i	**(1) Generalization**	**PHENOMENON: Behavior of an individual organism**		
	ii	**(2) Integration**			
	iii	**(3) Adaptation**			
Secondary system	i	**(4) Fixation**			
	ii	**(5) Differentiation**			
	iii	**(6) Manipulation**			

📖 68

CATEGORIES OF CHANGE

Our frame of reference also calls for concepts that distinguish between kinds of *change.* Typologies of change can be constructed from a descriptive as well as from a normative point of view.

In constructing a *descriptive typology of change* we must start with some formal definitions and distinctions. The minimum conception we can have of change is of a variable assuming different values. However, for this to be able to occur, we must have at least a two variable system: one variable changes value, while the other variable distinguishes the two conditions. This second variable does not need to be time. It can be any variable that enables us to distinguish between events we wish to compare, as for example, distance or a serial numbering of different products of the same kind. We can plot the changes in the value of the first variable against changes of the value of the second variable. Thus we are representing graphically a transformation between the two variables or a 'line of behavior'[12] of the first variable with respect to the other. One of the aims of science is the discovery of regular transfor- 📖 69 mations (regular lines of behavior) that can be explained, *i.e.,* generated in an idealized form by formal operations of an explanation scheme.

The examples of the second variable given above were all variables external to the system. We can also describe changes in one variable internal to the system with reference to changes in another variable internal to the system, without referring to changes in any external variable. If we can find regular transformations

[12] The concepts 'line of behavior,' 'stability,' 'null-,' 'part-,' 'step-,' and 'full-function' are used consistently with the way they are defined in: ASHBY, W. R. (1956). *An Introduction to Cybernetics.* New York NY: John Wiley & Sons. Chs. II, III, and V and in: ASHBY, W. R. (1960). *Design for a Brain.* 2nd rev. ed. New York NY: John Wiley & Sons. Chs. I-III.

between variables internal to the system, that remain invariant independently of changes in variables external to the system, we have achieved another aim of science, namely the discovery of a universal law. Actually, the research problem is not to discover universal laws, but to discover the limits on changes in external variables under which transformations between internal variables remain invariant.

The transformations that involve all the variables that define a system describe the structure of a system. In the case of the psychosocial system, as we have defined it earlier, its structure is given by the transformations between the six classes of state-variables.[13] 🕮 *70* As long as the fluctuation of values of the state-variables can be described by the same kind of transformations, the structure of the system remains the same. As long as the structure of the system remains the same, we call the changes in values of the state-variables *process.*

The range within which fluctuation in values of the state-variables does not alter the structure of the system we call the *range of internal stability*[14] *of the system.*

The structure of the system changes, if the values of (one, several, or all) state-variables exceed certain critical values. A change in the structure of the system we call *development.*

After critical values have been exceeded, the system becomes internally unstable, *i.e.,* every non-trivial change in value of a state-variable results in a change of structure of the system.

Eventually, the system may 'settle' into a new stable structure, *i.e.,* a non-trivial fluctuation in values of state-variables is possible without a concomitant change of structure. In other words, process without development may again occur.

🕮 *71*

For the purposes at hand, we are particularly interested in the case, when the system exceeds critical values, undergoes a succession of structures, but invariably settles back into the initial structure. In such a case we attribute to the system elastic properties, describe the deformation of structure between the two stable states as strain, and interpret the changes in the values of the state-variables that restore the original structure as stress. The values of the state-variables within which the system exhibits elastic properties we call the elastic limits of a system.

The range between critical values and elastic limits of a system we call the *range of elasticity* of a system. At least conceptually, the range of internal stability and the range of elasticity can vary independently between structures of systems, and the development of a system can be studied with respect to the variation in these two indices.

---

[13] For the sake of brevity of exposition, we shall use the terms state-variables instead of the term classes of state-variables. Also, depending on the context of the discussion we shall use interchangeably the terms state-variables and internal variables. Similarly, the terms parameters and external variables will be used interchangeably, depending on the context.

[14] External stability would refer to transformations between the system and external variables.

The above definitions permit us to construct a descriptive typology of four types of change:

(a) *Stable change.* Change in the values of state-variables, which does not exceed critical values. The structure of the system does not change.

(b) *Elastic change.* Change in the values of state-variables, which exceed critical values, but not elastic limits. The structure of the system is deformed, but if the values of the state-variables change in such 📖 *72* a way as to fall below the original critical values, the initial structure of the system will be restored.

(c) *Metastable change.* Change in values of state-variables, which exceed both critical values and elastic limits. The system settles into a new structure with critical values tolerating non-trivial fluctuations in values of the state-variables. The system may pass directly from one stable structure into another, or remain for a period of time in condition (d).

(d) *Unstable change.* The state-variables exceed both critical states and elastic limits. The system goes into a succession of structures where every non-trivial change in values of state-variables exceeds critical values.

If we now try to classify these four types of change by the previous distinction between process and development (change in values of state-variables without or with a concomitant change in the structure of the system), we realize that the appearance of process or development can be a function of the intervals between our measurements of the system. If we, for example, measure a system that changes elastically only at those times when it is not strained, we shall get the impression of a system in stable change. However, if we measure it at a time when it is not strained, and then again at a time when it is, we will falsely classify it as a system 📖 *73* in metastable or unstable change. Similarly, most metastable systems can be misclassified as unstable, if the interval necessary for the system to settle into a new, stable structure is not allowed between observations. Thus our statements must be made relative to the period or intervals of observation. Since types of change (a) and (b) do not in principle involve a change of structure, and types of change (c) and (d) necessarily do, we shall distinguish between stable and elastic process on one hand, and metastable and unstable development on the other hand.

While a system is undergoing unstable development, it is reasonable to wonder whether we should call it at all a system in the empirical sense of the term, since there are no regularities internal to it, which determine its behavior. The behavior of the system in the conceptual sense, *i.e.,* the fluctuation in values of the set of state-variables that define the system, is fully determined by external variables. The distinction between the determination of the behavior of the system by internal or by external variables is a source of another typology that is essential to the explanation of histories of systems. To formulate the distinction accurately, we must distinguish between systems in terms of those sets of variables, the state of which determines the relevant states of the 📖 *74* system. We obtain a fourfold classification.

A change of system is called

1) *endogenetic* change, if it is determined by a set of internal variables;
2) *exogenetic* change, if it is determined by a set of external variables;
3) *epigenetic* change, if it is determined by the state of a mixed set of internal and external variables; and
4) *random* change, if it is not determined by any known set of variables.

We also need to classify change in terms of its *reversibility* or *irreversibility.* In themselves, these concepts are as vague and general as to be useless or misleading, if applied indiscriminately. But in combination with the other classifications of change that are being discussed in this section, they are of critical importance to explanations of development. It can be shown, that reversibility is not conceptually independent of the two classifications of change that were just presented. An elastic system is reversible endogenetically by definition. A rigid system, *i.e.,* a system with a negligible degree of elasticity, is by definition irreversible endo- or epigenetically, but reversible exogenetically or randomly. So are the unstable system and the metastable system. If 🕮 *75* the new structure of the metastable system has elastic properties, it will resist exogenetic or random reversal into the old structure; however if the old structure also has elastic properties, once the state of the system falls within the elastic limits of the old structure, the reversal becomes epigenetic and can be completed endogenetically.

We must next consider the attempts to classify change from a *normative* point of view. Unfortunately, in social science those writers, who cannot distinguish between the normative and the evaluative approach, have discredited the normative approach. The typology associated with the evaluative approach is 'good *vs.* bad.' The form of the normative approach is to select one particular category (or set of categories) and to compare events in terms of the extent to which they possess the characteristics of that category. Thus the evaluative approach is a special instance of the normative approach, where the author personally regards conformity to the norm as desirable.

The first distinction we must examine is between *normal* and *abnormal* change. Since we do not accept the finalist concept of causation, we must exclude the interpretation of 'normal change' as change in agreement with some inner law or necessity, or change toward some preordained future state. If we were here to accept both this interpretation and our 🕮 *76* previous classification of types of change, normal change would simply mean either (a) stable process, *i.e.,* changes in the behavior of the system not accompanied by a change in its structure; or (b) elastic process, *i.e.,* a change in the behavior of the system which, although it involves a temporary deformation of its structure, leads to an eventual restoration of that structure. Now the word normal is used just in this sense in every-day speech, but such interpretation is too restrictive from the finalist point of view. Also, endogenetic stable and elastic processes are probably the exceptions in any limited region of space and time, and certainly are not sufficient to characterize the life histories of individuals.

For such purposes, the concept 'normal' is useful if it is given a statistical interpretation as 'the most probable'. Abnormality is then measured in terms of im-

probability. Thus the relative frequency with which different kinds of change occur classifies them by degrees of normality and abnormality. Since the distribution of events can be more than uni-modal, we can have several different standards of normalcy.

A multi-modal distribution naturally gives rise to a hypothesis that our sample has been drawn from populations with essentially different characteristics, and immediately we become aware that what is normal for some populations or under some conditions is not normal under others. Thus the statement about normalcy of change should be accompanied by 🕮 77 a statement of conditions, and if it is not, we should read in the conditions as implicitly stated.

We can again use the concept of irreversibility of change as an illustration. In the literature on psychosocial development, many changes are treated as irreversible, often implicitly. This is done not infrequently by writers who themselves are practicing psychotherapists, *i.e.,* who specialize in attempts to reverse the very changes they have described as irreversible. The apparent inconsistency between their writing and behavior disappears if we read 'irreversible' as 'normally irreversible.' Normal then implies that the average individual who has undergone a change of the type discussed most frequently does not undergo reversal. If the conditions for reversal to occur were more precisely specified, e.g., in terms of endo-, exo-, or epigenesis of the reversal, or its randomness, we could begin to test such theories.

The second useful classification of change from a normative point of view is in terms of its conformity with some desideratum or expectation. We shall call a change that conforms in all respects an *appropriate* change. If a change conforms in the absolutely essential respects, but not in the more incidental respects, we shall call it *variant.* If it does not conform in any essential respects, although it may conform in inci- 🕮 78 dental respects, it will be called deviant. This classification intentionally leaves the nature of the desiderata or expectations unspecified, as variables that can assume different values. The distinction between 'essential' and 'incidental' is also left intentionally open for specification in particular instances.

The last typology of change that we need to develop concerns an issue at the core of the nature of the genetic mode of explanation. At several places earlier we found it necessary to distinguish between two kinds of development. We talked of a 'development of the first kind' when discussing a change of structure of a system. As 'development of the second kind' we described a change in the set of variables that are necessary and sufficient for the description of the system, *i.e.,* a change in the definition of the system.[15] On the basis of this distinction, we can construct a fourfold typology of change.

---

[15] A system is defined by the set of variables that are necessary and sufficient to give an adequate description of the state of the system. Such variables are called state-variables. What constitutes an adequate description of the state of the system depends on the mode of explanation to be used. In a deterministic explanation, it is that description of the state of the system at one instant of time, which together with the structure of the system (transformations between state-variables) determines the total evolution of the system. In a functional explanation, we need the description of the state of the system at two times. The description of the states is in terms of those variables, which together with the boundary conditions (critical values and elastic limits) explain how an extremum value of some other variable was maintained dur-

80

To describe stable process in a system we need (a) a set of state-variables; (b) a set of transformations between the state-variables; (c) a set of values that the state-variables can assume. The only thing that varies as we are describing the stable process is the values; the state-variables and the transformations remain identical.

This is no longer the case if we wish to describe elastic process, metastable development, or unstable development. In each case, not only the values of the state-variables, but also the transformations, change. In what we called development of the second kind, not only do the values of the state-variables change, but the set of state-variables changes as well.

Let us, for a moment, say categories instead of state-variables, and propositions instead of transformations. We can distinguish between systems, which change in such a way that we can describe their behavior (a) by always the same set of categories; or (b) by always the same sets of propositions; or (c) only by different sets of categories at different times;[16] or (d) only by different sets of propositions at different times. What we called development of the first kind (change in structure) *81* refers to condition (d). Development of the second kind (change of system) refers to condition (c).

In the literature of the social sciences, this classification is usually collapsed into Windelband's classical distinction between nomothetic and idiographic.[17] However, our classification is a resultant of two distinctions: between categories and propositions, and between what is descriptive universally, and what is descriptive only of the particular.[18]

82

We have constructed typologies that distinguish between types of change from the point of view of (1) its effect on the structure of the system; (2) its source; (3) its permanence; (4) its relative frequency; (5) its conformity to a desideratum or expectation; and (6) the language necessary for its description. Most, if not all, of these different concepts of change occur frequently, although often only implicitly, in the major theories of psychosocial development. The typologies of change are summarized in Table 2.

---

ing the transition. What constitutes an adequate description of the state of the system in a genetic explanation will be treated fully in the following chapter.

16 Or, for different values of any other external variable (parameter).

17 WINDELBAND, W. (1935). *A History of Philosophy*. (2nd rev. ed.). New York NY: Macmillan.

18 It is hard to resist the temptation to make up new words on this occasion, especially since the Greek roots are already established in this context in the literature. We have the word *graphic* for descriptive, *nomos* for law (used consistently in the sense of 'universal'), and *idios* for own, peculiar. Thus *Nomographic* for universally descriptive, and *Idiographic,* requiring a special, peculiar description of its own. Then there are *logos* for word or speech, and *thesis,* originally meaning place, but now generally used as proposition. Thus *Nomologic* for describable by universal categories, and *Idiologic* for requiring special, peculiar categories for its description. Similarly *Nomothetic*, describable in universal propositions, and *Idiothetic,* requiring for adequate description special propositions peculiar to it. The disadvantage of this nomenclature is that while Windelband's 'Idiographic' is retained in its original general meaning and contrasted by a new term, the term 'Nomothetic' is given a special, more restricted meaning. The advantage of the nomenclature is perhaps its etymological consistency and conceptual symmetry.

83

Table 2. Concepts for the study of change.

Point of view on change	Types of change			
1) Effect on the structure of the system	*Process*	**Stable**		**Elastic**
	Development	**Metastable**		**Unstable**
2) Source		**Endogenic**	**Epigenic**	**Exogenic**
3) Permanence		**Reversible**		**Irreversible**
4) Relative frequency		**Normal**		**Abnormal**
5) Conformity		**Appropriate**	**Variant**	**Deviant**
6) Language necessary for description		**Universal**		**Particular**
		Nomographic		**Idiographic**
Categories, state-variables		**Nomologic**		**Idiologic**
Propositions, transformations, structure		**Nomothetic**		**Idiothetic**

84

STAGES OF DEVELOPMENT

The concept of a *stage of development* can be easily constructed from the concepts already available. We have defined development as a change in the structure of the system (idiothetic), or as a change in its definition due to the emergence or vanishing of necessary state-variables (idiologic). By a stage in development we shall therefore mean those periods in the history of an individual, which can be described with the same system (nomologic) and structure (nomothetic). During these periods development does not occur, only process does.

The description of a succession of stages constitutes the developmental history of an individual. Each transition between stages is characterized by a succession in time of (1) stable process, (2) elastic process, (3) unstable development and (4) new stable process. Relative to the stable process of the preceding stage, the stable process of the new stage is either idiothetic, or idiologic, or both. A transition from one stable process to a new stable process is metastable development.

The concept of a stage of development as formulated here is purely syntactic. The empirical problem is to identify: the duration of each type of process or development; the nature of the state-variables necessary for its description; the transformations between these variables; 85 the external conditions under which the different types of change occur; as well as their relative frequency under such conditions. The theoretical problem is to explain the account of the observed changes in terms of endogenesis, epigenesis, or exogenesis; in terms of reversibil-

ity or irreversibility; and in terms of the transitional probabilities of the different possible changes.

In theories of psychosocial development, terms such as normal stages of development, natural growth trends, goals of development, and stage-specific developmental goals, are frequently used. These are clearly combinations of normative categories, such as normal - abnormal and appropriate - variant - deviant, with descriptive concepts that we have already defined. Unfortunately it is extremely unusual for authors who use the concept of normalcy to specify the population and conditions for which their theory is asserted to hold. Similarly, it is not always easy to find a precise statement of the desideratum or expectation in theories that use the concept of appropriateness.

86

INFLUENCE OF FORMAL EDUCATION

Within the conceptual scheme as it has been developed so far, we have most of the concepts that are necessary to conceive of the possible influence of formal education on the psychosocial development of individuals. We can think of a school as a set of variables external to the psychosocial system. These variables can influence the psychosocial system exo- or epigenetically. They can be a source of external stability and thus perpetuate stable processes characteristic of a stage of development. Or they can be sources of a disturbance in the psychosocial system that will be the occasion for an elastic process, and thus cause psychosocial stress. Or they can be the occasion for unstable or metastable development, and thus cause an individual's breakdown, or usher her into a new developmental stage. The nature and magnitude of the influence and the extent in time of the influence of such external variables before, during, and after the individual's physical membership in the school, are empirical, not conceptual matters. A further characterization of the school, other than as a sociocultural system, contains explanatory features, and will be developed in the following chapter.