A HYPOTHETICAL STUDY ON THE SYSTEMATIC CLASSIFICATION OF PLAY

— A Preriminally Arrangement for Constituting the General System of Play —

Hiroaki IMAMURA
Tokyo University of Agriculture and Technology

Introduction

The changes that are taking place in the modern, urbanized society, by-producing different socio-economic structure and the mode of living, caused conversion of people's primary concerns in life from the field of work to that of play and leisure activities. This trend has been repeatedly suggested by group of sociologists, such as Riesman¹⁾ and Dumazedier.²⁾ Paralleling with these changes is the increasing requirement for the education for play and leisure.³⁾⁴⁾ Furthermore, being not confined to these changes, for the human being whose stimulus-response mechanism for survival is not instinctively fixed, free exploration, or playful behavior keenly relates to the human way of life transcending the change of times.⁵⁾ Since play has such a comprehensive significance as stated above, it should be studied not only from the individual research fields but also from the more inter-disciplinary standpoint which is to integrate these fields.

Although plenty of sociological researches has been conducted on play in the field of physical education and its related fields, most of these studies are left to be accumulated inorganically. The deficiency of the theoretical general model or the referential standard as an ideal type which enables to compare reciprocally the considerations and discussions on play in respective research fields and to unify their segmental results under common concepts or categories might be the reason behind of such an unorganization of studies. Besides appreciating the necessity and significance of the research products in each scientific field, setting up such a general model or common analytical frame of reference may be necessary for integration of studies in various fields.

Purpose

The purpose of this study is, regarding play as a behavioral system, to categorize hypothetically the components of the system and to determine their relationships as a primary procedure to find a cue to construct a general system of play which enables to integrate the research products on play in respective research fields. As research objects, play as a behavior

has, at least, psychological, sociological and cultural aspects. The integration of these aspects is attempted in this study.

Persons⁸⁾ distinguishes four different levels of systematization of science. These are, as he indicates : 1. *ad hoc classificatory systems*, 2. *categorical systems*, 3. *theoretical systems* and 4. *empirical-theoretical systems*.^{*1)} Category, and hypothesis similarly, are always prior to the empirical property, and their properties are judged only by the logical consistency. The hypothesis in this study, needless to say, should be positively revised and verified hereafter in each field of scientific research.

Review of Literature

McIntosh⁷⁾ classifies sports and physical activities into *competitive sports*, *combat sports*, *conquest sports* and the *physical activities to express or communicate ideas and feeling using and enjoying the movements and sensations of the body in the process*. Although he states this classification depends on the motive and the nature of satisfactions, intrinsic relationships among them are not explained explicitly. Kenyon⁸⁾ classifies physical activities into six sub-domains from sociopsychological viewpoint and internal consistency among the sub-domains are examined statistically, but, as he states for himself, the generality of his classification is not known in this stage of study. Piaget⁹⁾ classifies children's play into several stages from the viewpoints of their *practice of rules* and the *consciousness of rules* according to their intellectual development with age. Being intervened by the concept of the development of value consciousness with age, these stages are intrinsically related to one another, and simultaneously, integrate intrinsically psychological and social aspects of play, in that it has a characteristics of a general system. The range of analysis in his system is, however, not as wide as Caillois' system. Caillois¹⁰⁾ divides play into *ilinx*, *mimicry*, *agôn* and *alea*. These items mutually presuppose the existence of other items and, moreover, unify cultural, social and psychological aspects of play in them. Thus, his classification method may be identified as surpassingly categorical and general systematic. Yet, his description is rather literal than scientific.

Method

One of the methodological tactics to make up a general system of play is to regard play as a behavior. Respective extensions of psychological, social and cultural aspects of play overlap with each other in the concept of play behavior. In this study, referring to Parsons⁶⁾¹¹⁾ general theory of action, play will be deemed as a behavior system which is composed of

* (1) *In ad hoc systems no attempt is made to fit the classes to the subject matter. The classes are quite independent of the another. Categorical type involves a system of classes and is formed to fit the subject matter, so that there are intrinsic relations among the classes. Insofar as specific laws can be formulated and verified, a categorical system evolves into a theoretical system.*

some functional requisites, and the types of play will be categorized according to dominantly functioning requisite in the practice of play, and then relationships among the types will be determined.

Another method of constructing a general system of play is to compare the research products on play conducted in the different scientific fields and extract common factors from them. In this study, Piaget's and Caillois' play theories will chiefly be compared and contrasted, and other related theories will be referred not to verify but to construct the hypothesis.

Definitions and Assumptions

Behavior system : A person, a group of persons and a society are considered here as a behavior system. System is a set of interdependent components, and has a tendency to maintain its equilibrium and boundary. In this study, four kinds of components which are necessary to maintain the equilibrium and boundary are assumed. These are instrument, goal value and motivation. These almost correspond respectively with Parsons¹²⁾ term *AGIL* (*latent energy, integration, goal attainment* and *adaptation*). In this study, motivation means the psychological process urged and directed by need, need disposition, value consciousness and attitude.*²⁾ Value is the standard of *the desirable* which compares and selects psychological energies to integrate them, and on the other hand, it is *the desired* which gratifies the energies optimally. Goal is the object or the state directed and expected to attain by the integrated energies. Instrument is all sorts of means and ways used to adapt a system to a given situation.

These components are respectively expected to take charge of following functions to maintain dynamic equilibrium of a system. Motivation releases and reduces the energies which drive and direct behaviors, value forms and maintains the integration of the energies which require to be gratified opportunistically, goal establishes and attains the focus of conation, and instrument selects and manipulates the means and ways to realize system's adaptation. These functions are called as functional requisites of behavior system.

Play : In this paper, referring to D. Morris¹⁵⁾¹⁶⁾ and Ellis,¹⁷⁾ play is defined as the behavior that is primarily motivated by the need for exploration to elevate the level of arousal of the behavior system toward the optimal.

*⁽²⁾ According to Parsons, need means here *a tendency to fulfill requirements of the organism and to accomplish some end states*¹³⁾. Need disposition is *a tendency to orient and act with respect to objects in certain manners and to expect certain consequences from these actions*.¹⁴⁾ Yet, in this study these are not distinguished precisely.

Value consciousness is a complex of need disposition and norm consciousness. On the one side value consciousness corresponds with needs, but on the other side it corresponds to a certain norm which does not necessarily gratify needs. When need disposition and value consciousness are observed by others, they may be called as attitude.

The Types of Play and Their Interrelationships

(1) Categories of Play—The Components of Play System

Every play, whether it is personal or collective, includes four kinds of requisites presented above, and the requisite which functions dominantly characterizes the basic pattern of play as Parsons' concept *phase movement*¹⁸⁾ shows. Thus, the basic criterion of categorizing individual play is given by the requisites functioning dominantly in play. Play as a general concept is classified into four categories, i. e., self-sufficient, harmonic, dedicative and adaptive types.

(a) Self-Sufficient Type

The play which is dominant in releasing and reducing the psychological energies of a certain behavior system is called here as *self-sufficient type*. The characteristic of this type is self-sufficiency without considering the results occurred on the outer objects and with exploring pleasure of one's self. The primary model of this type may be sensory-motor play which is presumed to be motivated by the need for exploration and sensory-motor activities. The basic feature of this play is to raise sensuous excitation by amplifying the total amount of behavior. As D. Morris¹⁵⁾¹⁶⁾ and Ellis^{19)*3)} state, explorative behavior and elevating the total amount of behavior profoundly relate to the problems of survival of highly evolved animals that are highly playful. In this sense, the play of self-sufficient type may be considered to be the most primitive model. This type mostly takes a form of sensory-motor behavior which produces sensuous excitement or motor pleasure as Piaget indicates. The value which is desired by these needs is internalized and forms value consciousness or attitude of self-sufficiency. The value consciousness or attitude corresponding with *factor E* of C. Morris^{20)*4)} way to live, which is *self-indulgence (or sensuous enjoyment)*, and Kenyon's attitude for *physical activity as the pursuit of vertigo* may probably motivate the play of this type.

Piaget's play of *pure motor and individual character* which appears between zero to two years of age apparently corresponds with this type. Parsons²¹⁾ calls this stage as *oral dependency*, and suggests that, in this stage, organic need is dominant and ego's paramount gratification of interests are fused in their relation to the object of which the mother is prototype, and thus true object attachment does not appear yet. Caillois' *ilinx*, the play of momentary breaking of the stability of perception, is also the play of this type. This type may generally accompany the feeling of pure pleasure.

(b) Harmonic Type.

The play which dominantly functions to form and maintain integration is named here as *harmonic type*. The characteristic of this type is being secondarily directed by the motiva-

* (3) There seems to be a close relationship between the need for exploration and that for sensory-motor activity. Ellis suggests that, citing J. McV. Hunt and D. O. Hebb, as the A/S ratio (the ratio of the association area and the sensory motor area of the brain) increases, the capacity for new behavior, given similar environmental inputs, increases. Hunt writes, "The ratio is low in such vertebrates as reptiles and amphibia, where the anatomical provision for semi-autonomous central process intervening between receptor inputs and motor outputs is highly limited."

* (4) Morris educes five factors as the results of factor analysis on the 13 ways to live with which one would like to live.

tion for intimate and close relationships with affinitive or aesthetic objects, i.e., sensitive and appreciative motivations. This type has proximity to self-sufficient type in that both are affective (Freud's *id* is the origin of pleasure and at the same time love and beauty, or pathos). Harmonic type, however, usually presupposes the consideration on the results that affect outer objects, while self-sufficient type is not. Maslow's²²⁾*(5) *safety needs, belonging and love needs*, and *aesthetic needs* are presumed which as examples secondarily motivate the play of this type. Further, this type is also directed by the value consciousness or attitude corresponding with *factor D (receptivity and sympathetic concern)* of C. Morris' way to live and Kenyon's attitude for *physical activity as an aesthetic experience*.

Most of symbolic plays seemingly belong to this type. Piaget states that the rules of children's play between two and five years of age are the imitation of adults and elders. As Parsons²³⁾ calls this stage of age as *love attachment*, the children in this stage are more concerned about respectable and affectionate elders whom they strive to imitate than companions. Many symbolic plays involve psychological mechanism of identification to the respectable and affectionate objects and protectors by the imitation or symbolic expression of their appearance and performance and the desire for response from the objects that are close and dare to them.

Caillois' mimicry, the play of becoming an illusory character and taking feignly another personality, is deemed as the play of this type. In primitive societies, as Caillois²⁴⁾ suggests, mimicry often connects with ritual events and becomes the *true social bond*. Ritual itself is actually the symbolic expression of the desire for forming and maintaining intimate relationships with the transcendent (as adults for children), for his favors and patronage, and consequently for the social order or intimacy among the people. Referring to this, Huizinga²⁵⁾ writes that *ritual is thus in the main a matter of shows, representations, dramatic performances, imaginative actualizations of a vicarious nature..... In and through which* (a sacred play) *he actualizes anew, or "recreates", the events*

*(5) Maslow compiles a hierarchy of the basic conative needs which are arranged in lower-higher relation. These are, from lower to higher, *the physiological needs, the safety needs, the belongingness and love needs, the esteem needs* and *the need for self-realization*. After lower needs have been gratified, higher ones emerge. His theory of hierarchy of needs seems to have structural correspondence with the concept of phase movement in persons' socialization process analysis. Further, he introduces *the desire to know and to understand* and *the aesthetic needs*, which are deemed to interrelate to the hierarchy of basic needs. The need for exploration assumed in this study may correspond to the desire to know and understand, and may relate to each of the basic needs hierarchically compiled. The need for sensory-motor activity stated in (a) may be considered as a kind of physiological needs or a quasi-physiological need because of its biological and physiological implications. If Maslow's hierarchy is applied to understand general behaviors, the need for self-actualization may relate mostly to play behaviors. In this study, however, the hierarchy is applied to play behaviors. Therefore, the functional relations of these needs to general behavior should be translated into those to play behaviors.

As Maslow indicates, much overlapping with conative and cognitive needs makes it impossible to separate the aesthetic needs sharply. Yet, in this study, the aesthetic needs are ascribed to the functional dimension of *integration*, because they seem to motivate behavior which makes a person fused or integrated with the orderly and symmetrical patterns of the outer objects. Not the substantial concept but functional one is also the problem here.

represented and thus helps to maintain the cosmic order. McIntosh's fourth category such as those of *dance, dance drama, eurhythmics* and *some systems of gymnastics* involves both self-sufficient and harmonic factors. *Make-believe games, dramatic games, doll play, mother-love play,* and *collection* Sabora and Mitchell²⁶⁾ introduce are examples of this type. The play of this type may usually produces the feelings of loving and being loved, of peace and protection, and of beauty.

(c) Dedicative Type

The play which functions mainly to establish and attain a certain goal is named here as dedicative type. The special feature of this type is the devotion, self-conquering and competitive efforts on attaining a personal or collective goal. This type has proximity to harmonic type. The wishes for identification to affinitive objects (developmental identification) often turn or develop to the identification based on the dedication to objects (defensive identification)²⁷⁾. Dedicative type requires, however, more strict and conative endeavor, while harmonic type is filled with mild atmosphere. This type is supposed to be motivated secondarily by Maslow's *esteem needs* and the value consciousness or attitude corresponding with *factor A (social restraint and self-control)* of C. Morris' way to live and Kenyon's attitude for sub-domain of *physical activity as an ascetic experience*.

Play in the stage of Piaget's *incipient cooperation* which appears between seven and eight years of age is that of this type. In this stage, children begin trying to win. Piaget²⁸⁾ points out that, from the apogee of former stage to the first half of this stage, children regard rules as sacred and untouchable emanating from adults and ruler are due to adult's authority particularly the authority of the father. Parsons²⁹⁾ calls this stage as *latency*, and states that in this stage father becomes a source of demand and disciplines his children. This means that, in this stage, the father primarily denies children of their immaturity, while the mother supports and permits their immaturity. The father demands to his children in this stage on the capability or superiority, and thus such a psychological compulsion urges the children for dedicative and competitive efforts. Caillois' *agôn* also belongs to this type. *Agôn* is the play that takes a form of competition, and it is sustained by the wishes of having his superiority in a given area recognized. Being pure expression of player's ability, *agôn* requires sacred, dignified and so fair rules (as the father's demands to his children) which make winner's superiority undoubted. McIntosh's categories from the first to the third, or sports correspond to this type. The play of this type is supposed to be accompanied by the feelings of confidence, ability, prestige, fairness and right, in addition to the feeling of pleasure.

(d) Adaptive Type

The play which functions mainly to realize adaptation by selecting and manipulating instrument is called here as adaptive type. The word adaptation is originally a biological term which means self-adjustment, or accommodation for survival. Yet, referring to Piaget's concept of adaptation, viz., the equilibrium between assimilation and accommodation, adaptation is defined here as self-realization in the universal³⁰⁾ *6) situation by subjective and rational

* (6) The word particular, universal, specific and diffuse are chosen from Parsons, dichotomy of pattern variables, *universalism* vs. *particularism* and *specificity* vs. *diffuseness*.

self-adjustment. Particular^{30)*6)} and selfish self-assertion is rejected in the universal situation, and thus intellectual and rational selection and manipulation of means and ways are indispensable to attain one's own and co-owned goal in the situation that contains individual, specific^{30)*6)} and particular persons and collectivities. Thus, the play of adaptive type is that which realizes adaptation to the universal and diffuse^{30)*6)} situation.

This type is supposed to be motivated secondarily by Maslow's *need for self-actualization*. The value consciousness corresponding with *factor B (enjoyment and progress in action)* of C. Morris' way to live is presumed to direct people to the play of this type. The attitude for Kenyon's sub-domain *physical activity as catharsis* supposed to lead people to this type, since, as Maslow³¹⁾ writes, need for self-actualization emerges *unless the individual is doing what he is fitted for*. The attitude for Kenyon's sub-domain *physical activity for health and fitness*, assuming it to be a play, may be considered to direct people to the play of this type in so far as it is understood as a means of adapting and fitting people physically to the routine life. His another sub-domain *physical activity as a social experience* may be ascribed to each of the harmonic, dedicative and adaptive types depending on the patterns of social intercourse expected in the activity. This type has proximity to dedicative type, because both types are in ends-means relation. However, adaptive type needs more rational judgment, while dedicative type is rather conative.

Piaget's play of *codification of rules* in the stage of cooperation which appears between the year of 11 and 12 belongs to this type. The children in this stage attach importance to the means and procedures to realize cooperation which is based on mutual esteem. Piaget points out that the children in this stage put more interest to codify rules rather than to play for themselves alone, and he writes, "There are no more crimes of opinion, but only breaches in procedure³²⁾." Codifying the norm, the standard of the desirable and the desired, means that the children in this stage come to have the attitude and value consciousness of the self-realization through subjective self-adjustment. Parsons³³⁾ indicates that the adaptive behavior is the characteristic in the stage of *maturity*, but such a behavioral pattern is prepared through the experience in schools and peer groups in the stage of latency.

Caillois' last category *alea*, in a pure mode, does not exactly fit to adaptive type, but it can be put within the extension of this type. As stated above, adaptive type is characterized by the subjective self-adjustment in the universal situation. In *alea*, destiny solely can bring victory and so player is forced to rely on everything except himself. *Alea* is the play in which self-adjustment is required to the extremity in the most universal situation, viz., the situation governed by destiny. In *alea*, the attitude of possessing oneself under any decisions of severe destiny is admired and approved. Yet, in many cases, *alea* is mixed with *agôn*, and so assimilation and accommodation are more or less balancing. The play of this type may usually accompanies the feelings of reality, of effectiveness, fitness suitability and of profit.

As Caillois points out, *alea* is not the play of animals but peculiarly of human kind. Self-possessing attitude under any fatal difficulties in *alea*, thus, leads us to another type of play, *autonomous type*. Autonomous type is the play that is self-satisfactory and self-determining without presupposing the dependency and restrictions from outer objects. This type is char-

acterized by the conscious self-direction as Riesman³⁴⁾ writes, "The autonomous are those who on the whole are capable of conforming to the behavioral norms of their society..... but are free to choose whether to conform or not." Alea without such a self-directive autonomous control often produces catastrophic results. The value consciousness of C. Morris' *factor C (withdrawal and self-sufficiency)* may lead people to a sort of autonomous play. This type in a broad sense belongs to self-sufficient type, but it may be called as supra-self-sufficient type because of its conscious autonomous character. Yet, supra-self-sufficient type should decisively be distinguished from sub-self-sufficient type in respect that the former is autonomous, while the latter is motor.

(2) The System of Play

The four categories of play presented in preceding section are supposedly considered as the components of play system as a general concept, and then mutual relationships among them must be decided to determine play system. The dynamic and static interrelationships among them are to be examined in this section.

(a) The Phase Movement of Play System—The Temporal Order of the Components

Having already been alluded in preceding section, respective types of play are arranged successively on a certain time scale. If the development of system components occurs regularly in a certain time period, such a development is called *phase movement*.¹⁸⁾ As is seen in Piaget's theory, it is clear that the four types of play are successively arranged on the lifetime scale of humankind. More macroscopic phase movement is examined here.

Caillois³⁵⁾ suggests that people's preference and choice of play reveal the character pattern and values of every society to a certain degree, and he suggests that *ilinx* and *mimicry* are dominant in primitive societies and *agôn* and *alea* conversely characterize the play in orderly societies. As the terms which indicate social types in the developmental degrees, MacIver's distinction between *community* and *association*, and Tönnies' *Gemeinschaft* and *Gesellschaft* are given as examples. In this study, however, Riesman's categories of *social character*³⁶⁾ are accepted, because his categories imply not only basic social types presented above, but also penetrating insights to the present societies. The word social character means the character of the society and simultaneously the people's socially decided character. When the types of play are compared with the social types, it should be remarked that the correspondence between social types and the concrete forms of play becomes vaguer as the level of analysis lifted further. The focus of analysis is, thus, put on correspondence between social characters and functional traits of the types of play which are institutionalized in various stages of societies.

Caillois states that *ilinx*, the pursuit of vertigo and voluptuous panic, and *mimicry*, the play of possession, are the special feature of the play in primitive societies. In this stage, or phase, self-sufficient type and harmonic type are supposed to be dominant.

Harmonic type seems to have fast affinity with the society of *tradition-direction*³⁷⁾. Riesman suggests that tradition-directed society is equal to the society in the Middle Age in the Western history, folk society, or status society and *Gemeinschaft* as examples. The distinctive characters of these societies are adherence to the mother land (such as an early in-

fant for the mother), the dominance of primary sphere of the economy, firm group cohesiveness and blood-relationship and the dominance of the religiousness. The institutional play in these societies is represented by that connected with the civic and religious feasts. It functions to express people's wishes to be integrated with such affectionate and respectable objects as nature, ancestors, and the Divinities, and coincidently functions to strengthen community member's we-feeling and to make their feelings of ascription affirmed. In regard to the forms of play in tradition-directed society, the play of imitation and exhibition is supposed to be prevailing and refined. Huizinga³⁸⁾ states that in Feudal societies even sport (tournament) was so dramatized and aristocratically embellished that it fulfilled the function of the theatre. Tradition itself is the imitative products of historically preceding patterns of behavior.

This type may involve intrinsic moment of development to the next phase, dedicative type. Rituals and feasts are, on the other hand, the dedication to the transcendence and the confirmation of community member's service to the community. The wish for identification to the Divinity is, at the same time, implies the mechanism of self-defence from the compulsion the Divinity brings about. For instance, Halmos³⁹⁾ suggests that neighbourly love in Christian virtues is pre-eminently an attitude of service and sacrifice.

*Inner-directed society*⁴⁰⁾ is equivalent to the modern society where the secondary sphere of the economy is dominant. People's social character in inner-directed society closely corresponds to the function of dedicative type, as Riesman⁴¹⁾ writes, "The inner-directed person finds struggle to master himself and the environment quite appropriate; he feels comfortable climbing uphill." The representative play institutionalized in this society is competitive sports. In this society, The play functions to express person's capabilities and group prestige, as is typically seen in the Olympic games. It must be noticed that dedicative type also intrinsically includes the moment of shifting the type of play to the next phase, that is adaptive type. For the efficient attainment of a certain goal, rational selections and adequate manipulations of means and procedures are naturally required, and the development of modern sports has actually been supported by the sociable sports clubs, highly organized sports associations,^{42,43)} and scientifically devised equipments and instruments.

Riesman's third category *other-directed society*⁴⁴⁾ is characterized by the dominance of the tertiary sphere of the economy, and corresponds to post-industrial society. Riesman describes precisely the negative aspect of other-directed people. He states that contemporaries are the source of orientation for other directed people⁴⁵⁾. Other-directed people, though they are sociable, active and strives for the approval from others, have no long-term goals since goals must constantly be changed, and come to have a feeling of powerlessness. One of the institutionalized plays which meets such an other-directed person's character may be gambling, because it realizes the equality of other-directed person's powerlessness as was seen in alea. In other-directed society, adaptive function of play grows and the play strengthening the nature as a means. Play is regarded as *entertainment as adjustment to the group*,⁴⁶⁾ and the consciousness of recreation, or the play as a means of adaptation to life becomes popular. If such a tendency were to advance to the utmost, play would lose its self-objectivity.

Highly organized and aimless society which is constantly floating increases lonely and anomic crowd as Riesman suggests, and it may be reasonable to suppose that the lonely and anomic people tend to devote themselves to the play of self-sufficient type. The increase of such ilinx-like elements in plays as speed, thrill, sex and drug usage probably has a reciprocity with the advance of anomic phenomena. Yet, the play of adaptive type also includes the inner moment of shifting the phase to the next, that is, the phase of superego-self-sufficient type. Riesman⁴⁷⁾ writes with regard to this, "Autonomous character must arise from that aloneness, that helplessness of modern man, that would overwhelm a lesser person."

The phase movement of play system is regarded as the developmental process from lower play to the higher. The higher means here that higher the play is, the more it integrates the functions of the lower. Deductive type without love, for instance, easily turns to the struggle. Similarly the play of adaptive type without love and esteem for others leads a person to the anomic.

If the phase movement of the play is understood as stated above, Piaget's and Caillois' play theories should partly be modified. In Piaget, the lower category is supplanted by the higher category according to children's development with age. This must be modified as the higher category includes the lower, or the higher category is added to the lower. Sutton-Smith⁴⁸⁾ criticizes Piaget by pointing out that symbolic ritualistic play remains even in adulthood. Caillois⁴⁹⁾ says that the combination of ilinx vs. agôn, and mimicry vs. alea are forbidden relationships. Yet, the very combination of ilinx and agôn may be the essential factor of the fascination of sports as is typically seen in giant slalom and high diving as a competition. As to the relationship between alea and mimicry, he contradicts himself. Though he places hippodroms in the category of alea⁵⁰⁾, he writes as to the relationship between mimicry and agôn as follows: *The audience are not content to encourage the effects of the athletes or horses of their choice merely by voice and gesture. A physical contagion leads them to assume the position of the men or animals in order to help them.*⁵¹⁾ In Caillois categories, all kinds of combinations may be admitted, too.

(b) The Structure of Play System—The Static Interrelationships of the Components

Being decided the static interrelationships among the types, the four types of play, i.e., the components of play system actually constitute the structure of play system.

Self-sufficient and harmonic types seem to have a common feature. The characteristics of self-sufficient type are self-gratification and self-completion, and the those of harmonic type are close integration with the objects. The common feature of these types is, thus, *centripetence*. On the contrary, the characteristic of deductive type is the conquest or domination of external environments or situations, and that of adaptive type is the conformity to outer worlds. Both of them are characterized *centrifugence*. On the other hand, adaptive type requires agile self-adjustment to the floating situations and self-sufficient type pursues the temporal pleasure. Their common trait is *mobility* or *short-run*. Conversely, harmonic type is characterized by the wish for the eternal intimacy with objects, while deductive type is distinguished by the will for the continual pursuit of a certain goal. Their common feature is, thus, *stability* or *long-run*. The ambivalence of mobility and stability shows the temporal

factors to be chosen in play, and that of centripetence and centrifugence indicates the spatial factors to be selected in play. For example, if one wants to master something continually, the play comes dedicative. And if one wants to pursue one's own pleasure instantly, his play belongs to self-sufficient type. The self-sufficient type, that is, the pursuit of one's own temporal pleasure is considered as the prototype of play and, therefore, the starting point of the phase movement.

Characteristics of tradition-directed society is stability, while inner-directed, centrifugence and other-directed, mobility. And the social character in primitive society may be regarded as centripetence. Furthermore, Parsons' division of age may be allocated as shown in Figure 1, if transitional phases are included. In psychological level, to say in addition, two kinds of ambivalence presented above seemingly have semantic correspondence with Eysenck's rating scales of personality⁵²⁾, that is, ambivalence of stability and mobility corresponds with the *dimension of neuroticism (N scale)*, and that of centripetence and centrifugence corresponds with the *dimension of introversion and extroversion (E scale)*. Thus, general system of play as a hypothesis is constituted as shown in Figure 1. If developmental axis is added to the figure, play space can be indicated in cubic co-ordinates. In this case, phase movement may be drawn in such a fashion as starting from the point where every mode of play is latent as a possibility and going up spirally to the point where every mode of play converges into the autonomous attitude (Figure 2).

key: A)=Parsons' division of the developmental stage with age.
B)=Riesman's division of the social character.
An arrow shows the direction of phase movement.

Figure 1: Schematic Diagram of Play System

key: S.=Self-Sufficient Phase. H.=Harmonic Phase. D.=Dedicative Phase. A.=Adaptive Phase. A spiral arrow shows the direction of phase movement.

Figure 2: The Cubic Model of Play System

Summary and Conclusion

Hypothetical categorization of play was attempted in this study by referring to theories suggested by variety of researchers in the respective fields. Upon achieving categorization of play, the interrelationships between four types obtained in this study were logically examined so that a schmatic diagram to be made. Referring to Parsons, play was regarded as a

system of behavior, and the types of play, i. e., the components of play system were categorized according to the dominantly functioning requisites of the behavior. The corresponding relationships were recognized among the types of play induced from the requisites of behavior and the categories in Piaget's, Caillois' and other researcher's theories.

The categories of play were arranged orderly according to Piaget's and Caillois' theories, and mutual relationships were determined by the axes which indicate spatial, temporal and developmental factors in play. Including play theories which stand on the different viewpoints in time and space, the play system constituted here has a character of a general model for analysing play in various spatial and temporal scales. However, to refine this model as an analytical tool, more minute investigation must be independently conducted according to the system levels (from psychological level to cultural or social level of play), the nature of objects of play (the natural, the cultural and the social), mainly concerned human abilities (the physical, the emotional and the mental) and the time scales of play (from the process of a certain concrete play to the historical process of play).

The system of play presented here is the hypothetical construct. The positive verifications and modifications are to be expected in further studies. On the occasions of positive studies, Eysenck's inventory on personality, C. Morris' and Kenyon's statistic studies on the value consciousness and attitude, and Riesman's social characters which include economic demographic backgrounds are doomed to be the cue to relate this model realistically for the studies in the psychological, sociological, cultural and economical fields, because of their structural similarity.

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