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Organizing Components into Combinations: How Stage Transition Works[1]

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This paper investigates the nature of transition between stages. The Model of Hierarchical Complexity of tasks leads to a quantal notion of stage, and therefore delineates the nature of stage transition. Piaget's dialectical model of stage change was extended and precisely specified. Transition behavior was shown to consist of alternations in previous-stage behavior. As transition proceeded, the alternations increased in rate until the previous stage behaviors were "smashed" together. Once the smashed-together pieces became coordinated, new-stage behavior could be said to have formed. Because stage transition is quantal, individuals can only change performance by whole stage. We reviewed theories of the specific means by which new-stage behavior may be acquired and the emotions and personalities associated with steps in transition. Contemporary challenges in the society increasingly call for transition to postformal and postconventional responses on the part of both individuals and institutions as the examples illustrate.

KEY WORDS: stage transition; steps in transition; component actions; combination actions; transition processes.

The acquisition of a new-stage behavior has been an important aspect of Piaget's theory of stage and stage change. Because of his controversial notions of stage and stage change, however, little research on these issues has taken place in the late twentieth century, at least among psychologists in the United States. The research that has taken place is being done by neo-Piagetians. The neo-Piagetians more precisely defined stage, taking each of Piaget's substages and showing that they were in fact stages. In addition, three postformal stages have been added. Similar changes were made with Kohlberg's stages and substages. Commons, Richards, and Armon (1984) created a stage comparison table, comparing stage sequences from a number of different traditions, that stands today as the standard. This table shows that there is, essentially, only one stage sequence. Commons and Richards (1984a, 1984b) presented their first General Stage Model at that time. Commons, Trudeau, Stein, Richards, and Krause, (1998; Commons & Miller, 1998) later revised that model and expanded it downward, changing the name of the model to the Model of Hierarchical Complexity. Table I shows a complete list of the Orders of Hierarchical Complexity described in that model.

A developmental theory should account for three aspects of behavior: (a) what behaviors develop and in what order, (b) with what speed, and (c) how and why development takes place. Transition concerns itself mainly with the speed of development, and with specifically how and why development takes place. A developmental theory must be able to account for simple as well as complex behaviors. Behavior-analytic

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Table I. General Description of Hierarchy

Order or stage	Discriminations	Vocalizations
0 Calculatory	Exact – no generalization	None
1 Sensory & motor actions	Rote, generalized	Babbling (Universal)
2 Circular sensory-motor actions	Open-ended classes	Phonemes
3 Sensory-motor	Concepts	Morphemes
4 Nominal	Relations among concepts	Single words: ejaculatives and exclamations, verbs, nouns, number names, letter names
5 Sentential	Imitates and acquires sequences. Follows short sequential acts	Pronouns: my, mine, I; yours, you; we, ours; they, them
6 Preoperational	Simple deduction but contradiction is not excluded. Follows lists of sequential acts	Connectives: as, when, then, why, before
7 Primary	Simple logical deduction and empirical rules involving time sequence. Simple arithmetic	Times, places, acts, actors
8 Concrete	Full arithmetic	Interactions, social events, what happened among others
9 Abstract	Discriminates variables such as Stereotypes; Logical Quantification; (all, none, some)	Variable time, place, act, actor, state, type; Quantifies (all, none, some); Categorical assertions (e.g., "All teachers do that")
10 Formal	Argue using empirical or logical evidence; Logic is linear, 1-dimensional	Words: linear, logical, one dimensional, if–then, thus, therefore, because
11 Systematic	Constructs multivariate systems and matrices, coordinating more than one variable; Events and ideas situated in a larger context	Systems: legal system, society, our company, the economy, the country
12 Metasystematic	Integrates systems to construct multisystems. Compare systems and perspectives in a systematic way (across multiple domains). Reflects on systems	Metalogical, meta-analytic. Properties of systems named: homomorphic, isomorphic, incomplete, inconsistent or consistent, incomplete or complete, commensurable, incommensurable
13 Paradigmatic	Discriminates how to fit metasystems together to form new paradigms	Paradigmatic. Limitations of metasystems explored. Paradigms of metasystems elucidated. Phenomena discovered
14 Cross-paradigmatic	Discriminates how to form new fields by crossing paradigms	New fields synthesized out of paradigms

theories of development have concentrated on explaining why development takes place (e.g., Bijou & Baer, 1961; Baer & Rosales, 1994). Under these theories development has been explained primarily in terms of contingencies of reinforcement. Such accounts have argued that the sequences in which behaviors develop are environmentally determined. According to behavior-analytic theories, any particular behavior is viewed as being "shapable" given the proper contingencies. As a result, sequences have been largely seen as consisting of only two steps, arbitrary, and easily changed. Behavior-analytic theories have been better at explaining relatively simple behavior (the behavior of nonhuman species, infants, and individuals who are mentally retarded or autistic) rather than complex behavior. For these reasons, such theories have tended to become marginalized as far as developmental psychology as a whole is concerned.

Developmental psychology as a whole has been concerned with what develops and in what sequence. The major theory that has dealt with the possible sequences in which behavior is acquired has been the mentalistic theory of Jean Piaget (e.g., Piaget, 1954, 1976). Stage transition has also been an important issue for both Piagetians and neo-Piagetians (Benack & Basseches, 1989; Fischer, 1980; Fischer et al., 1990; Fischer, Hand, & Russell, 1984; Piaget [as cited in Flavell, 1971]; Riegel, 1973).

Commons and Miller (1998) proposed a quantitative behavior-analytic theory of development that deals both with the sequences of development, and with why and how development takes place. The theory presented here is behavioral because it makes only behavioral assumptions and avoids mentalistic explanations. The theory also uses principles derived from quantitative analysis of behavior (e.g., Commons & Nevin, 1981) in that the assumptions are explicit and the measures of performance are quantitatively describable; neither are limited by the earlier forays into quantification such as those of Hull (1943, 1952) or Piaget (Inhelder & Piaget, 1958; Piaget, 1954, 1976; Piaget, Inhelder, & Sinclair-de Zwart, 1973).

In order to make the necessary arguments about stage transition, it is important first to present an outline of the Model of Hierarchical Complexity.

THE MODEL OF HIERARCHICAL COMPLEXITY

The Model describes a new dimension of complexity that is at right angles to the traditional concept of Horizontal complexity (as seen in information processing). The Model is a cross-domain, or universal system that classifies the task-required hierarchical organization of responses. Every task contains a multitude of subtasks (Overton, 1990). When the subtasks are completed in a required order, they complete the task in question. Therefore the model asserts that all tasks fit into some sequence of tasks, making it possible to determine at what order of hierarchical complexity an ideal action would have to be to address that task.

In this task-complexity theory, for one task to be more hierarchically complex than another, the new task must meet three requirements (Commons et al., 1998). The new task-required action must:

(1) be *defined* in terms of the lower-stage actions;
(2) *coordinate* the lower-stage actions; and
(3) do so in a*nonarbitrary* way.

To expand a little on these statements, the first one says that the very definition of a task-required behavior with a higher complexity must depend on previously defined, task-required behavior of lower complexity. Second, the higher complexity, task-required actions must coordinate the less complex actions. To coordinate actions is to specify the way a set of actions fit together and interrelate. The coordination specifies the order of the less complex actions. Third, the coordination must not be arbitrary. Otherwise the coordination would be merely a chain of behaviors. The meaning of the more complex task must not be severely altered by any nonspecified alteration in the coordination.

Through such task analysis, the hierarchical complexity of a task may be determined. The hierarchical complexity of a task, therefore, refers to the number of concatenation operations it contains. An order-three task has three concatenation operations. A task of order three operates on a task of order two and a task of order two operates on a task of order one (a simple task).

Tasks are also *quantal* in nature. They are completed either correctly or not at all. There is no intermediate state. The order of hierarchical complexity is stepped just like the rings around the nucleus. Each level of task difficulty has an order of hierarchical complexity required to complete it correctly.

Because the Model of Hierarchical Complexity proposes a quantal notion of stage, this proposal also delineates the nature of stage change. We will show how this model allows a precise specification of Piaget's dialectical model of stage change. We also discuss specific means by which new-stage behavior may be acquired and what may stand in the way of stage change.

COMBINATIONS OF LOWER ORDER ACTIONS

Because the Model of Hierarchical Complexity proposes that stage change consists of combining old actions into new ones, it is important to discuss the number of different kinds of combinations of lower-order actions that can occur. There are *iterations*, *mixtures*, *chains*, and *new-stage behavior*. *Iteration* is doing the same action over and over. For example, adding $2 + 3 + 4 + 1$ is an iteration of adding. *Mixtures* of actions may include doing a problem set containing simple addition and simple multiplication tasks. Under *chains* can be included the ordering of subtask actions. However, chains have an arbitrary order to them. For example, people learn to wash the dishes and then take out the trash. But in reality, people could take out the trash and then do the dishes if they so wished, making the order reversed. The tasks can be done in any order, but people choose to do them in a certain fashion. Finally when the behaviors are combined in a nonarbitrary order, then one may have *new-stage behavior* (as opposed to a chain). Now the specific steps of combining behaviors in a nonarbitrary way will be described.

The Transition Steps

Piaget suggested a dialectical theory of transitional steps. To describe transition, this model elaborates on and systematizes the dialectical strategies described in the Piagetian probabilistic transition model (Flavell, 1963, 1971). The systematization of the substeps is based on choice theory and signal detection (Richards & Commons, 1990). Although, as we have said, every task can contain a multitude of subtasks (Overton, 1990), for purposes of this illustration consider just three subtasks, A, B, and C.

In the Piagetian conception of transition from one stage to the next, the following steps were said to occur:

1. A, B (or not A)
2. A or B
3. A with B

A is an action from the previous stage. B is a complementary action or the negation of A. For example, A might be addition actions from the primary stage; and B might be the multiplicative action. When presented with the problem $2 \times (3 + 4)$, the steps would be to assert A, assert B, alternate A and B depending on the situation, and finally, coordinate A with B.

Two elaborations of this model have been carried out within the Model of Hierarchical Complexity. First, two steps have been added. This first elaboration uses and is directly based on Piaget's model of transition (Flavell, 1963, 1971). Second, we have added substeps (0, 1, 2, 3, and 4) to the third step. The substeps are based on Kuhn and Brannock (1977) and the systematization of that by Commons and Richards (1984b). The reconfigured theory looks as follows:

Step 4. A	Piaget's Step 1
Step 0. A fails	New step
Step 1. B (or not A)	Piaget's Step 1
Step 2. A or B	Piaget's Step 2
Step 3. Smash A and B together	New step
Step 4. A with B forming a new action C	Piaget's Step 3

Substeps 0, 1, 2, 3, 4 of Step 3 describe different ways of smashing A and B together, without fully coordinating them.

These steps are shown and described in more detail in Table II. Note that Steps 0, 1, and 2 represent deconstruction, whereas Steps 3 and 4 represent construction.

The underlying process of transition is the increasingly rapid alternation back and forth between A and B. Yan (2000) presented data showing that an increased rate of alternation resulted in a new correct response that was stable. Performance, like the tasks themselves, is *quantal* in nature. That is, there are no intermediate performances. "*Smash*,"attempts to synthesize both A and B; however they are not coordinated. The combinations of old-stage actions are alternating, but only with the correct coordination is there the new-stage behavior that fits A and B together successfully. This is another way to explain why one cannot make tasks that fill the gaps between stages.

How to Measure Transition

Transition can be measured using at least four different methods:

1. Scoring interviews directly for statements that reflect transition.
2. Finding the rate and acceleration of alternations of old-stage and newer-stage actions.
3. Finding the proportion of new-stage versus old-stage behavior.
4. Determining the hierarchical complexity of stimulus items (or tasks) and using a Rasch analysis to show that they form a continuous scale. Rasch (1980) analysis scales performance and items on the same log linear line. Transitional performance is shown by the mixtures of performances at different stages. The mixtures range from 0% at the higher stage to 100%. We call 95% at a stage consolidated performance and 0% up to 95% transitional. The advantages of the Rasch analysis are that (a) it reduces measurement variance to a minimum, (b) and thus yields *direct* comparability. This is useful in assessing the nature of the items used to measure performance; the possible natural number order of hierarchical complexity of each item, and the corresponding stage of performances on each item. (Mislevy & Wilson, 1996; Spada & McGraw, 1985; Wilson, 1989).

Examples of Stage Transitions

In the current paper, we have measured transition by putting into operation the first method. We have collected a number of examples from three separate data sets. One data set, "Attachment" consisted of interviews on loss that were done with children (8–9 years of age) and adults (Miller & Lee, 2000; Miller, Lee, & Commons, 2000). The second data set, "Therapy" (Wolfsont, 2000, 2002) was taken from a study of the effects of a "brain gym" (see Appendix) on stage change in adults. The third data sets, "Moral Reasoning"and "Good Education" (Commons, Danaher, & Meaney, 2000) consisted of moral-reasoning and "good education" (Armon, 1984) interviews of faculty and administrators from Harvard University (Commons, in preparation). Each

Table II. Deconstruction and Construction in the Transition Steps

Step	Substep	Relation	Name	Dialectical Form
			Deconstruction in the transition steps	
0 (4)		A = A′ with B′	Failure – old equilibrium point (thesis)	Previous stage synthesis does not solve all tasks. (Deconstruction begins.) Extinction Process.
1		B	Negation or complementation (antithesis)	Negation or complementation, Inversion, or alternate thesis. Subject forms a second synthesis of previous stage actions (Antithesis).
2		A or B	Relativism – (alternation of thesis and antithesis)	Relativism – Alternates among thesis and antithesis. The schemes coexist, but there is no coordination of them (Alternation of thesis and antithesis).
			Construction in the transition steps	
3		A and B	Smash – attempts at synthesis	The following substeps constitute transitions in synthesis.
	1		Hits and excess false alarms and misses	Components from A and B are included in a nonsystematic, noncoordinated manner. Incorporates various subsets of all the possible components.
	2		Hits and excess false alarms	Incorporates subsets producing hits at stage *n*. Basis for exclusion not sharp (Overgeneralization).
	3		Correct rejections and excess misses	Incorporates subsets that produce correct rejections at stage *n*. Produces misses. Basis for inclusion not sharp (Undergeneralization).
4(0)	4	A with B	Temporary equilibrium (synthesis and new thesis)	New temporary equilibrium (Synthesis and new thesis).

of these data sets have been coded by three individuals using the Stage Scoring System (Commons, Danaher, Miller, et al., 2000). In all cases, the reasoning has been categorized according to the stage of the responses of the subjects and to the types of transition examples found in it. These examples are presented in the appendix in the order of increasing stage and step.

They show some support for the steps of transition, as described above. Every subject's behavior could be categorized with respect to a given transition step. This demonstrates the existence of the transition steps, but says nothing about other matters, such as how long someone may stay in a step or whether the sequence is valid as proposed. The remainder of the paper addresses the impact of emotions, personality, and various forms of environmental support on transition.

What Helps and Impedes Transition

Stage transition is slow. Very few people traverse 12 stages by the time they reach the age of 24. For example, Armon and Dawson (1997) showed that, at most, people are transitioning roughly every 2 years. The function is more linear in log time, however. The only time where there is very fast transitioning is perhaps during infancy. There are several aspects of situations and of persons that explain why people do not transition more rapidly and what emotions are associated with functioning within a given step. The simplest explanation is that there is a huge gap in difficulty between any two tasks differing in one order of hierarchical complexity. It is difficult to acquire a new-stage behavior when the initial rate of success of performing the next-stage behavior is so low. Dawson, Commons, and Wilson (in preparation) found that most people behaved at their most frequent stage of performance almost all of the time. This leaves very few behaviors at the higher stage to reinforce. Society simplifies the environment to fit the stage-appropriate order of hierarchical complexity. Preschools do not require writing, elementary schools do not require calculus, children are not asked to vote in public elections.

During transition, the perceived rate of reinforcement drops at the beginning. The more one confronts failure, the more one might expect avoidance. In fact, Commons, Grotzer, and Davidson (in preparation) found that feedback alone on order-of complexity tasks led to a decrease, rather than an increase, in stage of performance. One would expect that a defensive behavior, which involves fear of going through the steps, would decrease stage performance. These defensive actions have been seen to exhibit characteristic and associated emotions. Another explanation could be that one might never perceive in others a stage of performance higher than one's own. Such an

eventuality would impede learning through support. Finally, it may also be the case that organizations and institutions in fact punish higher-stage performances. Punishment usually strengthens behaviors that compete with the punished behavior and therefore maintain or even increase the avoidance of making next-stage behavior.

Transition Emotions

Every task has some order of hierarchical complexity. Testing performance on that task measures stage. If one performs the task successfully, that means one is operating at that stage. Therefore, static coping is what occurs when one is not required to perform above one's characteristic stage of performance for such tasks. To meet or solve other problems successfully, however, requires one to change from one stage to the next. By contrast, dynamic coping is about changing stage. Different emotions will be associated with each step of transition. Recall that during the first three steps (0–2) deconstruction of previous stage behavior takes place (see Swan & Benack, 2002, for an example). During the last 2 steps (3–4) there is construction of new-stage behavior.

At the final *step 4* (*A with B*) of the transition to the next stage, the closure makes one feel personally satisfied. As Rosenberg (1979) points out, how this momentary stability is perceived will effect how one feels socially. Quite often the demands for further development arise. This affects how long such positive feelings persist.

At *step 0* (*A*), the demands for performance beyond the final step of the last stage are perceived. Without changing performance from step 4 of the previous stage, there is a perceived reduction of reinforcement for task performance. This is step 0. A person feels stupid and upset or angry after failing to fulfill a task. They may also continue to feel happy and elated about task mastery of the previous stage's tasks.

At *step 1* (*B*) the person feels dejected in addition to the previous feelings of anger (of being upset). In both of these first levels or stages of reactions, one just wants to "give it all up" and forget about it all. These are defense mechanisms, ways of switching the point and rejecting frustration.

At *step 2* (*A or B*), a key word is relativism. One sees the possibility of solving a problem, but does not necessarily know the right means of doing it. Someone can be seen as competent for a special task, but not for just any task. Relativism has to do with contexts, and, because contextualization is somewhat concretizing, it is an attempt to cope with each context one confronts in the optimal way for that context. But concretizing is not the same as coordination. In concretization one knows only that there is a way of comparing situations and means, but not how to compare.

At this step, one may feel conflicted, anxious, and not sure of anything, because one really has no sense of control over the situation. People may ask themselves whether they are independent or dependent, but most probably cannot find an answer. Who is the one that really holds the reins? One might enjoy the excitement of the uncertainty, such as when a tourist visits a strange land and experiences other cultures for the first time. One might defend the relativism of such a situation as a necessary reality and feel that it justifies one's behavior.

At *step 3* (*A and B*) people begin to show more creativity in handling problems. There are three conditioning substeps.

The *first substep* is described as "getting chaotic." One simply tries anything to get going. What is often done is just to smash (or to lump) all the existing systems of acting together without any formal integration. *Smashing* connotes aggressive and desperate attempts to "survive," e.g., like the experience of having to build a life raft out of anything at hand. On the first substep, people feel somewhat manic as part of the normal process.

The *second substep* is the "learning what to do" substep. Templates are formed that are inclusive. The instance of the relationship at the target stage will be detected and used. This second substep brings with it a beginning to produce correct results. One is not yet able to eliminate those acts that do not bring good solutions, but the right direction is at hand. The most common feelings experienced at this point are excitement and a sense of frustration (from making errors).

The *third conditioning substep* is "learning when and where to do" each subset of action. People may feel uncomfortable and confused, but not helpless. They feel they know what to do, but not when to do it. On the other hand, people who do not know what to do may have a feeling of deep incompetence and helplessness. When people feel both confused and helpless, they have no sense of power or ability to act progressively.

In this substep one comes to learn to eliminate overgeneralization errors. One may be obsessive, fussy, and "a stickler." Everything has to be

compulsively cleaned up. Templates constructed here exclude, rather than include. Reconstruction takes place. There may be a sense that one is just not meant to get stuck in one's present state or situation.

In the *fourth conditioning step* (*A with B*), inclusion and exclusion templates are finally coordinated. One may feel glorious and ecstatic for combining right components successfully. A postreinforcement pause may follow.

Personality and Transition in Performance

It is proposed that there are given personality types associated with being frozen at a particular step. This relationship between personality and moving through transition is not necessarily a causal one. That is to say, a given personality type does not necessarily cause a person to stop during transition at a particular step. But it does suggest that a person with a given personality type might be more comfortable being frozen at a given step. Table III shows a highly speculative proposal for what the personality types might be. It is based mainly on my own observations of people during transition and informal discussion.

When the rate of behavior reaches a maximum—most closely matching the rate of an expert—the behavior is deemed to be *fluent*. Even moderate numbers of errors in performance have long disappeared when rates of behavior may increase greatly. If it is over learned to the extent that very little effort or special attention is required, then the performance is deemed *automatic*. Fluency training on the components seems to increase the speed at which compounds are acquired from components. The implications of this work are that Precision Teaching in behavior analysis provides an empirical account of development.

The Upper Limits of Stage Transition

This discussion may make it sound as if, under ideal conditions, there is nothing in the stage transition theory we have presented that necessitates an upper limit on stage transition. The current formulation includes 14 orders of complexity as shown in Table I. This formulation suggests that the number of times a series of components can be turned into a higher-order combination is presently 14. This may be the upper limit, at least for human beings. There have been an increasing number of empirical reports that there is a limit to the number of times a series of components can be turned into a combination. These reports can be found in training studies (e.g., Colby & Kohlberg, 1987), which show that at a given age, there are limits to how much training is effective in bringing about change. We also know, from training graduate students, that no matter how much training one gives graduate students, some never move beyond the systematic stage in their problem solving.

We suggest also that whatever the upper limit may be for any given individual, that limit seems to be almost totally heritable. For example, there does not seem to be any variation among identical twins who have been given training (Bouchard, 1997; Bouchard,

Table III. Personality Type and Transition Step

Step 0	Fault-finders	At low orders of performance in the social domain, this may result in antisocial behavior. These people perceive tremendous unfairness. People become "stuck" at this point because much of their current-order behavior is maintained by "punishment" that reinforces the failure behavior. They have experienced a huge drop in perceived reinforcement rate because they see the failures of their own behavior (at the present stage) to obtain what other people do obtain with next-stage behavior. They quite often have unshakable negative depressive scripts.
Step 1	Naysayer	May be persons who enter therapy, or rebels, radicals, or malcontents. They have given up their old ways. If A is wrong, then the opposite of A is right. After Step 0, this has the second largest drop in reinforcement rate. This occurs because they drop their previous successful behavior from A and substitute behavior from B for it.
Step 2	Relativists	Clinically speaking, at worst, these may be narcissists ("Situationalists") or borderlines. That nothing works consistently proves no one loves them enough. In U.S. culture, it is quite often the largest group. They fill academia. They stop progress by insisting that there is more than one way to look at things, but they cannot come to a decision about such issues. Varying whether to behave A or B, this group gains some in reinforcement over groups in earlier steps. But the conflict between whether to choose A or B produces in them anxiety, mood swings, and uncertainty about roles, values etc.
Step 3	Movers	They are moving from SMASH to CONSOLIDATE. They create great trouble for themselves and others by throwing ideas and actions together in a creatively haphazard way, taking a great deal of risk.
Step 4	Unshakable	Everything is okay, even if it is not okay. They avoid conundrums, apparent contradiction, comparisons to people they look up to. Anything is good enough.

Lykken, McGue, & Segal, 1990, 1991). When there has not been enough training, giving both twins training only causes acceleration in the slower twin—hence, the ceiling.

CONCLUSION

We have shown how the Model of Hierarchical Complexity leads to a quantal notion of stage, and therefore delineates the nature of stage transition. Piaget's dialectical model of stage change was precisely specified. Transition behavior was shown to consist of alternations in previous-stage behavior. As transition proceeded, the alternations increased in rate until the previous stage behaviors were "smashed" together. Once the smashed-together pieces became coordinated, new-stage behavior could be said to have formed. Stage transition was shown to be quantal; that is, no matter what the nature of the intervention or where in transition one undergoes it, there cannot be intermediate performances. Individuals can only change performance by whole stage. We reviewed theories of the specific means by which new-stage behavior may be acquired and the emotions and personalities associated with steps in transition. Examples were provided.

The theory presented here and in other papers on the Model of Hierarchical Complexity (Commons et al., 1998) makes seven predictions, all of which Dawson, Commons, and Wilson (in preparation) have confirmed:

1. There are exactly six stages from the beginning of schooling to adulthood in which we find participants performing.
2. Sequentiality of stage is perfect.
3. Absolutely no mixing of stage scores takes place. A Saltus model (Wilson, 1989) shows that there is no continuity between the stage items.
4. Gaps in difficulty exist between stages.
5. These gaps are relatively equal, showing that the task demands of transitioning from one stage to another are similar regardless of the particular transition. These gaps have been shown using a Rasch analysis with a Saltus model. This result is consistent with our argument here about the unstable quantal nature of transition.
6. People generally perform in a uniform manner. Most performances are predominantly at their most frequent stage of performance.
7. The distribution of person performance within each transition is strongly skewed toward the higher stage. Comparatively few people exhibit only a little reasoning at their highest stage. For example, there are fewer participants performing in transition on Kohlberg's Heinz and Joe dilemmas and more consolidated performers. Whether a participant's performance was in transition was measured psychometrically by the proportion of new-stage versus old-stage behavior.

Our task now is to fit together the various ways of measuring transitional performance and to examine the effects of intervention studies on transition.

APPENDIX

Attachment A. Male, Age 8, Stage 7 Primary-Step 3 Smash, Substep 2: Overgeneralization: Transition to Concrete

Interviewer: What happened to the toy that your cousin lost?

Child: Yeah. He threw it up someplace. It must've landed in a gutter or in the streets.

Analyses: He talked about his own point of view in an earlier response. Now he has reversed and is talking about his cousin (who threw his toy "some place"). He is at least considering what his cousin did and how that affected not being able to find the toy. However there is no specific coordination between what the cousin did and the fact that the toy cannot be found. The substep of transition that he is showing is overgeneralization. He would blame his cousin for anything, so he does not have "correct rejection" strategies—just a large number of hits.

Attachment N. Male, Age 9, Stage 7 Primary-Step 3 Smash: Transitional to Concrete

Interviewer: Why weren't you very mad when your friend moved?

Child: Because I did have a say in it, sort of. I asked them to stay, but he said Oh we've been planning to move for about a year.

Analyses: This child spoke about these experiences almost entirely in primary order terms. But he made three statements approaching the concrete order (of

which this is one). This statement involves more than just himself. He recognizes that others have points of view, but he does not really refer to their point of view. As a result this was coded as being at the transition substep smash.

Attachment K. Female, Age 8, Stage 8
Concrete-Step 2 Relativism: Transition to abstract

[When asked whether she was afraid due to the loss of her hat:]

Child: I just wasn't afraid. Because, I don't get afraid when I lose something. But if it's something very, very special to me, really, really important and I always loved it, then I would be a little more scared and worried that I lost it. I'll never see it again.

Analysis: She seems to have two ideas: some things that are not very important do not make her get very afraid; other things that are very, very important would make her get more afraid. She seems to be beginning to deal with different values of "importance" and of "fear" and relating them to each other, but she is not doing the relating explicitly. She also seems to be thinking hypothetically; she does not have a specific thing in mind but says "If it's something . . ." As far as what step of transition she is showing here, it is relativism: she has both points of view, but does not coordinate them, instead she alternates between them.

Attachment C. Female, Age 9, Stage 8
Concrete-Step 3 Smash: Transition to abstract

[When her cat died:]

Child: It made me feel like I had to do something because I wasn't taking it that hard and like, the other two were.

Analysis: This is a story, with specified roles: self and other family members. She is stating what sounds like a social norm, but it is not a general social norm. It is specific: because these two people are upset, she should be upset. This is transitional to abstract, because generalized social norms are abstract. The transition substep is smash because the social norm is not free, it is stuck on these two people and this situation.

Therapy Stage 10 Formal, Step 4(0)

Participant: I play slowly enough to anticipate each upcoming section of the music.

Analysis: Formal, stage 10. An implied "if–then" relationship logically connects two abstract variables. The first variable is the speed of playing, and the second is the anticipation of upcoming sections of music.

Therapy Stage 10 Formal-Step 1 Negation: Transition to Systematic

Participant: "He sees intimacy in a different way than me."

Analysis: This is a functional relation: "If he sees intimacy as 'x' then I see it as 'y' and vice-versa." This is a comparison between two abstract propositions.

Therapy Stage 10 Formal-Step 3 Smash: Transition to Systematic

Participant: "Need to explore and respect each other's wants and desires and function as a team [to build intimacy]."

Analysis: The adult has a "needs to do" list of the conditions required for building intimacy. This is multiple causation; the conditions are combined in an additive fashion at the formal stage. The social relationship, as a system that builds intimacy, is not explained as a coordinated system of viewpoints that balances individual with common needs or desires. "Explore and respect each other's wants and desires" indicates a notion of maintaining independence and "function as a team" dependence, but the adult doesn't account for how to coordinate them.

Attachment M. Male, Age 41, Stage 11
Systematic-Step 0 Failure: Transition to Metasystematic

Participant: I lost my car, my marriage, my job, my health and a whole lot of other things at that same period of time so I can't say, you know, it was point 0.0 centimeters of sadness associated with losing my motorcycle.

Analyses: Systematic because there was this whole system of losses impacting on him that he cannot point to one event or one variable as the cause of his sadness. It is seen as transitional step 0 because it is just loss with nothing else.

Therapy Stage 11 Systematic-Step 1 Negation: Transition to Metasystematic

Participant: I need to understand that John is a man of few words when it comes to love.

Analysis: The adult is negating blame. She is taking responsibility for constructing her view of John as an element of her overall understanding of building intimacy instead of blaming him (entirely) for blocking the process. (Negating blame is a rejection of a formal, linear view of causality.) The systematic level of complexity as explained here involves a context (i.e., "when it comes to love" is a distinct context) in which the self (i.e., "I need to understand that . . .") takes a view of the other's view of love (i.e., "John is a man of few words when it comes to love").

Attachment D. Female, Age, 41, Stage 11 Systematic-Step 2 Relativism: Transition to Metasystematic

Interviewer: How did you come to change your mind [about your whole way of looking at life, as a result of living through the war in your country]? Was it just the fear of death? . . .

Participant: Well, it was the fear of death. [and somewhat further down in the same statement:]

Things like this, you can't have pink ideals when the situation around here is like that. And you have to live day by day. You just cannot plan anything not even for a week. Lack of water, lack of sometimes bread . . .

Analyses: The reason that she changed her mind is partly because of the fear of death. Her whole way of looking at life changed as a result of death becoming so immediate. This was coded as being at the Systematic stage. She was talking about having one view of life (her first system) before the war, and having a second and totally different view of life (her second system) after the war. Further down, she is saying you can't choose a system, you can't have ideals—and the war is what made her that way—she couldn't choose the path—the war made her see things on a day-to-day basis. So, this is a comparative statement about two systems: the way things would have been, and the way they ended up, but there is no explicit comparing. She articulates each one, but alternates between describing one or the other; or rather she mainly describes the new system and leaves the interviewer to understand that the old system had none of this. This was scored as relativism.

Attachment E. Male, Age 23, Stage 11 Systematic-Step 2, Relativism: Transition to Metasystematic

[When asked to decide what was his greatest loss:]

Participant: . . . but that hasn't [happened] to me yet, though, ummm, and I'm not sure I feel comfortable saying that the biggest loss I've ever had in my entire life, I think for some it might be easy to do. They could tell right off, but I really have different experiences, so I could say that something was a big loss, but I'm not sure it was the most . . . so is that going to be . . .?

Analyses: He talks about one system: his set of experiences that have given him a particular set of losses. He also refers to potential other systems containing the experiences of others that may produce other losses or more losses. Because he does not coordinate these two together, but talks on the one hand about his experiences, and on the other hand about the experiences of others, he is at the relativism substep.

Therapy Stage 11 Systematic-Step 2 Relativism: Transition to Metasystematic

Participant: I understand that it may not be possible to be both at the same time [to be a friend and pastor to an individual], and that what I am looking for from an individual at each particular time will be different as I am friend and pastor.

Analysis: The adult succeeds in bringing together the two roles of friend and pastor within the same individual. He alternates them in a systematic fashion so they do not conflict with one another. The adult does this by placing himself with the parishioner into two different temporal contexts. Here, there are two perspectives (from the same person) but they are not fully integrated. The transition process is not yet complete for this stage.

Attachment J. Female, Age 25, Stage 11 Systematic-Step 3 Smash: Transition to Metasystematic

[When asked to describe her emotions after breaking up with her boyfriend:]

Participant: And yeah, I was angry too. I was angry at him because . . . because I knew there were some things about him that were wrong, and created these adverse reactions in me, and I didn't really know what

they were, but I was really mad at him for just being himself.

Analyses: She was angry for at least two reasons: he did things or had characteristics that were wrong, but there was almost something about her that had adverse reactions to the things he did. So she is describing a kind of multi-variable system that determines her emotion, in this case, anger. Also, just the phrase "being himself" is a systematic notion; it consists of multiple behaviors occurring at multiple times and occasions. But this is not fully metasystematic because she does not know what is driving her nuts. She does not fully specify either her self system enough, or the "other" system enough to have a clear sense of what is wrong. She is at step 3, smash, in the transition to metasystematic, and most likely at substep 1.

Therapy Stage 11 Systematic-Step 3 Relativism: Transition to Metasystematic

Participant: I relax. I breathe. I visualize the pages ahead and the intent of playing and the feeling for the music to be expressed, all from a calm place. I keep practicing all the little snags to smooth out. I get plenty of rest, do Brain Gym and chi activities. I visualize success and calmness. I pay attention to the music and not the worry. I breathe some more, and repeat. I remember this and create it from out of my larger goals and purposes.

Analysis: The adult explains that he integrates success and calmness through visualizing both together. Also, coming from a "calm place" promotes visualization, and paying attention to the music and not the worry. Success and calmness are two "systems" that he is co-ordinating. At this point, he appears to be overgeneralizing how the two are combined. As systems, he explains how success depends on calmness, but not clearly how calmness depends on success.

Therapy Stage 12 Metasystematic-Step 4(0)

Participant: "To find things easily is to pursue a thought until it intersects perceptions or images of the misplaced item, to sense its presence without clearly identifying it and then it appears as if to fulfill some sense of it being there already."

Analysis: The adult integrates "locating" and "identifying" into a subjective, intuitive system of thinking about an object. This is a strategy of "scanning and zeroing in" on the misplaced item. In this process, the adult first thinks about an item, which elicits perceptions or images of it. Then, the adult implies that he looks around for the item. The scanning is done by first using the "ground" to sense an object intuitively, and then by disembedding the object more fully so it becomes the "figure." At this point, the appearance of the object is gradually matched against the images of the thought about the object until the client becomes fully conscious of the object's presence. At the end of his explanation, the client is just starting to construct the related system of objective appearances and locations. The variables of thinking about, locating, and identifying a misplaced item are fully coordinated into a strategy for finding misplaced items. When looking about, he first senses the item's presence without fully identifying it. At the end of the process, the item is fully located and identified, confirming the adult's "sense" of the item's location.

Good Education Stage 11 Systematic-Step 1 Negation: Transition to Metasystematic Stage

Participant: Teacher says look, we're going to tell you things that you can write down. And if you forget you can look them up in the textbook. I promise I won't tell you anything that's not in a book you can look up. And you write them down and memorize them. And then we're going to have an exam. And you tell us back and we'll check off whether you told us right and whether you told us everything. And if you did, then we'll give you an A.

Now this is a very safe process for all concerned. There's very little risk for the faculty. I mean anybody can give an adequate lecture of that type. So it won't reveal you as a bad teacher unless you just don't prepare. It's also very safe for the student, right? Because if you do your homework, if you don't screw around and play tennis and waste your time, you can pass almost any course that is taught that way. And the conspiracy is that neither party, neither the professor nor the student do anything to reveal that not much learning has gone on. What do I mean by not much learning has gone on? What I mean is, when you confront people with problems for which the knowledge you have transmitted is supposed to be useful later on, they can't solve them.

Analysis: Subject includes components from an educational system based on predictable outcomes and rote memorization, as well as components from a

system with risk. Subject does not coordinate these components and gives as examples subsets of different ways of education and assessing students at the Kennedy School of Government.

Good Education Stage 11 Systematic-Step 1 Negation: Transition to Metasystematic Stage

Participant: "I want to say one more thing about this. One of the ways, that it is very difficult to evaluate a process like this, is to ask the victims or subjects of it at the time. It's characteristic of every experiment that we have made that . . . (in my view) . . . in every experiment that we have made that really involves learning, that the students and this includes mid-career adult students, hate it. Or say they hate it. They say, oh, don't do that. That's a terrible idea. They plead with us to teach statistics by the lecture method. They . . . we asked them for example to grade each other in class performance. We don't do it any more. They grade each other and that's half their course grade. So they are responsible for each other and responsible to the classroom and we are no longer the policeman of classroom behavior. And they have six dozen different elaborately reasoned explanations of why that's inappropriate and unethical and why we shouldn't do that. And it's our job to grade them and so on.

Analyses: Subject includes components from an educational system based on traditional lecture-type teaching and teachers doing all the evaluation, as well as components from a system based on the case method and students' evaluation of one another. Subject produces hits at stage 12 by describing components of an ideal system of student empowerment, but overgeneralizes by relying too much on examples and not coordinating components into a cohesive system.

You know I think the best example is of Ulysses tying himself to the mast. You know, where he sails past the sirens? Do you know the story? He sails past the sirens and he knows that they're going to sing and lure the ship to its death so he says, "OK, sailors, stuff your ears with wax so everybody can't hear anything. OK now tie me to the mast and unstuff my ears. So they sail past the sirens and he hears the sirens but he can't do anything about it and they don't hear it so they keep rowing. SO he's the only man in the world who's heard them and survived. And he knew that when he heard them that if he didn't tie himself to the mast, right, if he didn't restrict his behavior. Somehow we have to trust the students that have made an agreement like this. At the same time they can not want to do this week's homework and hope that we will not listen to them. At that moment. Tricky problem."

Moral Reasoning Stage 11 Systematic-Step 1 Negation: Transition to Metasystematic

Participant: Alright, a business is trying to provide some product or some service to the society. Trying to make a profit. The university is trying to educate people. So obviously, the activity is going to be different . . . I suppose you could say that there's a certain kind of interaction that's crucial for a university's place students and faculty which doesn't have a comparable place in other kinds of institutions.

Analysis: Subject does not fully describe or coordinate the systems of business and education.

Good Education Stage 11 Systematic-Step 1 Negation: Transition to Metasystematic Stage

Participant: "Well, there are some people who like to think of everything as a business. It's a metaphor people use. And maybe there's some point to that, but it also can be misleading. There's a point to it in the sense that the university should worry about using its resources efficiently and should make sure that it's accomplishing its mission. But it's misleading in the sense that you can't simply take the standards that apply in a business enterprise and transfer them wholesale to a university, judge it by the same standards. You've got to realize that there's a different kind of enterprise going on."

Analysis: Subject does not fully describe or coordinate the systems of business and education.

Good Education Stage 11 Systematic-Step 2 Relativism: Transition to Metasystematic Stage

Participant: Well, because, I guess these goals are sort of Aristotelian [in] that the truth is always somewhere in between. And if we used all the resources of higher education merely to prepare for a career for example then the career wouldn't be worth having because life wouldn't be worth living. I mean if what you learned was how to do your job, then there wouldn't be much point in doing the job because you couldn't enjoy anything else. Conversely, if all you did was get very good at reading books and consuming experience,

you wouldn't be any good to anybody else so why we should we care that you are having a good time?

Analysis: Subject alternates between the "preparing for a career" and "getting very good at reading books and consuming experience," without coordinating them.

Good Education Stage 11 Systematic-Step 2 Relativism: Transition to Metasystematic Stage

Participant: So if higher education is in the service of these three objectives, and if turns out to only be good for one of them, then, I'd say it won't even advance that one. That these aren't additive. You can't say, well, this is the Harvard School of Getting an MBA and Making a Million Dollars. The accusation that's leveled at the Business school is that all it does is teaches people to make a lot of money and not to be good people in some other sense. And then it turns out to be not worth it that they are making a lot of money. Because they are deficient in these other dimensions. So that I can't separate the quality of interdependence and talk about any one of these by themselves in isolation.

Analysis: Subject alternates between students to make money and becoming a good person without coordinating them.

Good Education Stage 11 Systematic-Step 2 Relativism: Transition to Metasystematic Stage

Participant: . . . any large institution needs governance, which is to say that some people have to be in a position to make decisions. So the university's no different from other institutions in that respect. What may be characteristic about universities is that much of the authority is decentralized, much so than any other social institutions. And that's because it's very important to allow faculty members to have a good deal of autonomy.

Analysis: Subject does not coordinate the two systematic goals of governance and autonomy.

Good Education Stage 11 Systematic-Step 2: Transition to Metasystematic Stage

Participant: Whereas, if you want to call what the university does is producing a product, the product is the very interaction between students and faculty. I: OK. What should that interaction be and why? I: What quality should it have? There are some very general features one might say as openness, willingness to explore new ideas, a willingness to question, to debate, to provide support for claims that are made . . . no one has monopoly or a lockhold on the truth. And if for every individual to a considerable extent has to make a judgement for him herself as to what's true. What makes sense. What connects to what.

Analysis: Subject produces a hit at stage 12, but basis for exclusion what is or isn't an element in the ideal university system is not sharp.

Good Education Stage 11 Systematic, Step 2: Transition to Metasystematic Stage

Participant: I think that everyone has an inclination, maybe even a desire to be certain about how the world is. Among other inclinations. And what you want to do is lead a person to perceive that they are adults, so you explore the beliefs that people have and you show where there are questions and why one has to keep a certain openness in regard to those things because they are questions.

Analysis: Subject produces a hit at stage 12, but basis for exclusion what is or isn't an element in the ideal system of training is not sharp.

Good Education Stage 11 Systematic, Step 3 Smash: Transition to Metasystematic Stage

Participant: I don't mean by that there should be some separate course in a professional school because that seems to me a way of simply keeping ethos concerns marginal . . . in law there is a guiding ideal that the course system should be doing justice . . . when a lawyer helps two parties write a contract, the lawyer should have some understanding of what a fair contract is and what equal bargaining is. I: Why? W: Those are moral notions. Because this is a way of treating people with respect."

Analysis: Subject correctly rejects reducing moral concerns to a marginal level, but undergeneralizes the need for respect to one professional area, the law.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: It's important because in almost all aspects of the society where people are involved day

by day, the professional business bureaucratic demands upon people—let us say for the moment, relatively educated people in the entirely conventional sense of having gotten a certain number of degrees or something—are such that they neither make nor are given the time and I think soon lose the energy to find the time to think critically of what they are doing and learn a variety of ways to absorb the mainstream lessons of their society or to work within the alternatives that the society considers respectable and suitable alternatives, as whatever, as the Democrats and the Republicans or between this college or that, or this or that job, whatever it might be. So that there are few institutions which have the luxury as it were, or the capacity to get people to think outside the context of any one pursuit and to think about themselves and their society better with that extent distanced.

Analysis: Pass at Metasystematic Stage 12. The subject clearly defines her/his ideal system of a moral education with a definitive goal of integrating the self-system with society, although this goal should be accomplished along with the student receiving a practical skill. The subject passes at Stage 12 because they are able to describe a system which has a clearly defined method integrating these two goals—ideally the institutions should make one competent to work within the profession and it's too obvious to mention when you get to areas like surgery or building bridges, but the notion of competence for the law is far more complex, but there is clearly a sense of an ability to deal with the materials to grasp and to understand their various possibilities and so on. On the other hand, simply to train people to that competence which would enable them to play the professional role and serve any set of interests, which in my mind would be an inadequate way of thinking of the role of the school as such, that is, it should have the role of making the student not only aware of the professional tradition, but critical of the professional tradition.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: Whereas if you stay within a narrow conception of technique and professionalism—which inevitably, you do, in any professional school. If you're studying the bone structure of the body, you don't want to develop the forms of democratic government necessarily in the same course. But a school that offered no opportunity to see what it was doing relationally, too, in the sense of what life the individual ought to lead or the understanding of the character of your own society. What I think failed by making the professional think that professionalism and work consisted of the boundaries where the boundaries or the boundaries of technique taught in the school. There were no larger issues present.

Analysis: Pass at Metasystematic Stage 12. Subject successfully describes a cohesive system with sharply defined criteria for what determines a good or bad education. Subject successfully integrates the goal of professional competence with the goal of broadening the professional student's understanding of his/her role in society.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: All are theories that rest upon different ethical assumptions of what society is and what the role of law and society is and what either has achieved which often blends into what people think it ought to achieve and people create their histories which are open to many interpretations which often, you know, consist of the way they think of what the society ought to be. So it's just become a prevalent way of thinking about law. To understand why the rule says one thing rather than another or the standard or the principle or why the Constitution or whatever interprets it to mean this rather than can't be understood with any strict system that extrudes history, morals, political theory, even psychology, sociology, a whole variety of perceptions that inform the lawmaker, whether you're talking with a judge or a legislator.

Analysis: Pass at Metasystematic Stage 12. Subject successfully describes a cohesive system with sharply defined criteria for what determines a good or bad legal education. Subject successfully integrates the goal of legal competence with the goal of broadening the law student's understanding of his/her role in society.

Good Government Stage 12 Metasystematic, Step 0(4)

Participant: I mean there's a sense in which we respect ourselves more and respect each other to the extent we are self-governing rather than taking orders. Um. There is a sense a purely efficiency sense in which you tend to keep the most corrupt and most venal and most crooked out of office—at least you can

bounce them from office if there's some conception of electoral or democratic control as opposed to having no control over the guys. And there's a conception of self-development through, you know, not thinking what your life can be entirely your business and private and other people are going to run the joint so as you start to participate and you start to think more of the polity and we start to think more the society you're living and ideally, we take that as part of your responsibility to think about others who think about the society and not simply say, my domain is entirely my life.

Analysis: Pass at Metasystematic Stage 12. Subject successfully describes a cohesive governmental system with sharply defined criteria for what determines a good government. Subject successfully integrates the goal of legal competence with the goal of self-development and the citizen's responsibility to society.

Good Government Stage 12 Metasystematic, Step 0(4)

Participant: That denied people important possibilities of participation that dictated rather than saw itself in some fashion of the community of the people themselves that did evil things, that denied respect, that humiliated, that discriminated . . .

Interviewer: Why would that be evil?

Participant: Well, you're back to fundamental, I mean, formal premises intuitively because it would create systemic official differences, discriminations among people in a way that denied to them, denied some basic notion of equal worth . . . you ask why say that, why not some more than others and in many respects, some are better than others. Morally, or in talents or in one thing or another. But in modern terms of respect as human beings which they inherit so that would deny that, would I think true to some, hierarchally, traumatically whatever superior to others. And deny participation to all or some and to deny respect by crushing all of those possibilities of human expression or discovery or gaining more freedom that we talked about earlier.

Analysis: Pass at Metasystematic Stage 12. Subject describes a system which has sharply defines a bad versus and good government. Subject successfully integrates the two themes of superiority in some individuals with the theme of equal respect.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: I'm not certain that I would want some veto power but it would probably be on the grounds similar to Constitutional grounds vetoing what Congress does. If it violates fundamental principles. So I'm unclear what the relationship between the president and the faculty should be, but it would move more heavily towards faculty subject to very few restraints and faculty participation going toward a great voice whether or not it would fully [allow] election of the dean and faculty committees and things of that sort. But I think the president is functioning. I think the faculty could get all locked up. They could all become one thing and refuse to hire anyone outside who's not part of that model. Or they could develop vendettas and become very destructive and drive people out on personal or ideological grounds . . . It would become a closed institution rather than an open institution. And I think part of the role of the president might be to assure that a university remains, not equally open to everything, but remains an institution in which ideas have a chance to develop and there's no formal closure to any of the competing the set of ways of thinking about a subject.

Analysis: Pass at Metasystematic Stage 12. Subject describes a system which has sharply defines a bad versus and good university government. Subject successfully integrates the two themes of openness with the theme of structure.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: If you believe in what an institution should be, then you should act for it. Because there's a problem when you're hierarchally in the administration under someone's dean for a lot of reasons I don't someone at MIT who's going to be publicly criticizing me. Fax friend Peter. I want someone's who's supporting me. That's my team. I gotta get things done. Gotta count on you. But a faculty member's not anyone's team. A faculty member is an independent functioning human being. It has a responsibility, I think, certainly the right, whether or not if they have the responsibility, to act in that way . . . If I were vice-president or something of the sort. In an important way. I wouldn't stop criticizing, but I'd do it internally more than externally.

Analysis: Pass at Metasystematic Stage 12. Subject successfully describes an ideal system of university government which integrates the goals of supporting the institution and being a responsible critic of same.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: The reasons for it may lie in the subconscious, but at least we all know, it's—you know you're lying. I think that you deny your respect for me. You know, that really bothers me. I: Why? S: You're manipulating me. You're not treating me as someone real. And you may be doing it—if you've got a point to fight out on the university paper, I think that you learn early in life that you do it directly. You don't get around it by lying. You say, Mr. Administrator, thanks, but no thanks or yes, I will bow to pressure if you don't want it published. Rest assured, I'm a goody, I'm not. If your superiors lie to you. That's why the whole idea of censoring the thing is bad. You learn that when you're in authority, you're going to crush someone who threatens to reveal something that's embarrassing to you. Going to publish. Or you say, keep your hands off our papers, if you try to censor this at all, we're going to be responsible, or we're going to try to be or whatever you're going to try to say.

Analysis: Pass at Metasystematic Stage 12. Subject correctly rejects lying, particularly by those in authority, as inconsistent with an ideal university system based on respect and responsibility.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: Although the university, I think did seem to be acting abusively-the way you put it—around the facts that I've imagined. If it were anything more than inquiry and urging you to take great care with this story and assure that it's correct if there going to publish it and to think hard about it. Stonewall? I think it's a bad way to get out things. It's a hard way to get out of things. You . . . it's a very . . . and you're teaching a lesson by doing that.

Analysis: Pass at Metasystematic Stage 12. Subject correctly rejects lying, particularly by those in authority, as inconsistent with an ideal system of morality based on truth.

Good Education Stage 12 Metasystematic, Step 0(4)

Participant: if it passes for acceptable for personal authority is able then, to denigrate particular constituents. If the uneducated, the poor, the minorities, women, whatever he wants to do. So that if it passes in the classroom, it's, uh, you know. It's like, um, whatever, um, . . . a president of this country denigrating a particular other people's for this or that or denigrating all Communists or whatever. I: OK. S: Whatever it might be. Or a Palestinian denigrating all Jews or an Israeli leader denigrating all Palestinians. It legitimates that fine dilemma.

Interviewer: Why?

Participant: Because it's from a person in a position of authority.

Interviewer: Why is that important—that he's in authority.

Participant: The legitimation because when people with formal authority speak others listen more than they do to someone they can dismiss down the street and that person gains an audience and the press has a lot more power to disseminate and you may have the power, even more significant, to write your views into some form of official conduct by your policies in the classroom.

Analysis: Pass at Metasystematic Stage 12. Subject correctly rejects denigration and lack of respect, particularly by those in authority, as inconsistent with promoting and supporting an ideal system of morality based on truth.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: Like you could maybe go to jail for stealing, you know. That's a little bit like civil disobedience and Thoreau and so on, not quite the same thing, but you're standing up for the principle which human life is more important on this particular equation more than property and are willing to take the consequences even if it means that you're going to jail . . . And I think that this notion of say being willing to take the consequences, if there are, such there are social consequences for, and the willingness to make the reparation to the druggist. I mean, there's the problem of an unjust price, in this situation, there are so many complex moral issues—There are many

ways in which you could express your willingness to comport with a social system and still not outrage you in various ways.

Analysis: Pass at metasystematic Stage 12. Subject successfully describes an ideal system of morality with preservation of life over property in a hierarchal value system, but integrates this theme with the theme of preserving social order.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: Unless you say that this is an idiosyncratic occasion. I mean, it's never going to happen again and you've got the whole human tragedy there and it's not going to hurt you to give and I suppose that I would feel in that circumstance, I'd consume all of that, yes. I should give. I can't bear the responsibility for not doing it. But I'd also feel a great rage. Why am I doing it in my society? Why am I called upon? Why shouldn't the society be doing it in some structured way? Through tax systems, welfare systems, whatever it might be. And I find it hard to believe that this would be that isolated case, you see.

Analysis: Pass at Metasystematic Stage 12—Subject describes an ideal system which would meet peoples' needs in emergencies rather than relying on the unpredictable and haphazard intervention of individuals, contrasting this ideal system with one that places an unreasonable and sometimes impossible burden on any particular individual who may be confronted with such situations.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: The market is not functioning by definition when you're price-gouging and since most justification for prices rests on some assumed structure of competitiveness applying demand and if you don't like my drug prices, go to someone else, if you don't like my towing service in the road, go to someone else. All of that collapses when you're broken down on the road and I'm the only towing company that's willing to come out and get you for a thousand bucks and you're the only person with this rating on them—that's all. We're talking about what an economist would call a monopolist situation and monopoly pricing raises serious issues with respect to the public good. Why give one person all that power to profit self at the expense of much public suffering in this situation elsewhere?

Analysis: Pass at Metasystematic Stage 12—Subject describes an ideal economic system devoted to the public good, and correctly rejects any monopolistic system as being inconsistent with such a system.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: Entrepreneurial skill, running out of the game, taking a risk, all of those seem, simply on a utilitarian basis, which I would come back to the diminution of welfare to the druggist seems to be a relatively trivial matter if you were still allowing some normal business and profit compared with the enormous harm you're creating for others. If people try to justify this out of ignorance, you have whole elaborate attempts at social or political theory that been to justify one or another set of arrangements. I think where you're dealing with, particularly in matters like health which hurt you very strongly, life and death, it seems to go back to some fundamental lack of respect or any perception of equal humanity to allow one person to appropriate so much that could be helping so many others in a vital way.

Analysis: Pass at Metasystematic Stage 12. The subject describes an ideal economic system that places life and health over promoting entrepreneurial skill and risk-taking.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: He should repent and embrace him like a brother . . . well, he should certainly try to understand why Heinz is doing this. I suppose that would be. . . or Heinz should try to get him to understand why he is doing this . . . there's always the possibility that he will understand Heinz's—the death of Heinz's motivations and see why Heinz used this as a moral act and perhaps that point of view may be persuasive to him. He can empathize with Heinz to some degree and see it as he would if it were his wife and if he didn't have the money then he may rethink the morality of his own conduct and wonder if he should not act differently in the circumstances . . . Ideally, I mean, . . . what I'm stressing is that it would be best if we had a character that would empathetically identify with and see the dilemma and think it through by feeling and understanding the thing rather than someone who saw it clearly in terms of property rights and property right protection.

Analysis: Pass at Metasystematic Stage 12—the subject describes an ideal personal moral system for the druggist based on empathy and placing life over property.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: What right has the stranger to say Heinz, you lower your welfare by subjecting yourself to a prison sentence by stealing this drug to me. I think relationships here are vitally important the way we understand our moral responsibilities. We have to—either, I think they are personal and individual through love or affect or one or another close, or they are systemic and social. Handling the social problem as a whole. I find it very hard to work out the moral in between. Between the, you know, two, four, eight, twenty, whatever they are, people who would be within our intimate circle and the millions and millions and millions who might be making claims on us.

Analysis: Pass at Metasystem Stage 12. Subject describes an ideal system which would integrate the two themes of personal and social responsibility.

Moral Reasoning Stage 12 Metasystematic, Step 0(4)

Participant: The doctor inevitably gives part of his welfare to patients maybe by subjecting self to disease by working with a communicable disease pairing. That's part of the effort of helping. Suppose the doctor simply asks for the four thousand dollars to pay for the drug. It's hard for me again to see why individually, this doctor is under this responsibility with this person and why not the same responsibility to every other poor patient who comes in. I think the doctor is under an obligation, I would say, to work toward some system which will make it possible for the people he's seeing to have a possibility of getting these jobs or getting help. And again, I don't think that he has to expose his whole welfare and bankbook and family or whatever, to the demands of individual patients. And I wouldn't know again where it stopped. I think that there are limits to what his sense of responsibility is.

Analysis: Pass at Metasystematic Stage 12—the subject describes an ideal system integrating the doctors' personal moral responsibility for providing some of her/his patients with free services with the general responsibility of society for providing medical treatment for all.

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