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ABSTRACT

This paper begins by examining two approaches to defining and measuring adolescents' understanding of the public good: (1) theories concerning stages of moral and cognitive development and political socialization; and (2) attitudinal survey methods. Methodological deficiencies of the approaches are identified. The paper presents a new method of conceptualizing and assessing adolescents' understanding which involves the use of think aloud problem solving and related tools of cognitive psychology. This method produces graphic maps of adolescents' schemata of society, self, and others. Findings of a pilot study on schemata of the political system are reported. Further evidence for the use of think aloud problem solving and for the analysis of such problem solving by means of schema-maps in studies of adolescents' understanding of the common good is provided through a reconceptualization of Adelson and others' (1969, 1966) research on adolescents' solutions to hypothetical dilemmas. Discussion concludes that schema-mapping offers a concrete way of operationalizing either a diffuse conceptualization of society or a complex and well-organized conceptualization which includes institutions, principles, and linkages between action and the public good. (RH)

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ADOLESCENTS' SCHEMATA OF SOCIETY, SELF AND OTHERS: AN APPROACH TO CONCEPTUALIZING AND MEASURING ADOL SCENTS' UNDERSTANDING OF THE PUBLIC GOOD

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Although there has been a rapid expansion of research on the social development of adolescence in the nineteen eighties, the emphasis has been on interactions in face-to-face groups such as the family and the peer group. Little attention has been paid to the way adolescents see themselves linked to the public realm and its values. A large volume of research on adolescent political socialization relevant to this problem was published from the mid-sixties through the mid-seventies, largely because of concern about the meaning of student activism for the public good. Relatively little research on this topic has appeared since, perhaps because there has been no attention-getting crisis involving the student generation. However, many point with dismay to indicators of a low level of commitment to the public good among adolescents, exemplified in low rates of voting by 18-20 year-olds (Abramson, 1983) and expressions of self-centered values among current adolescents (see analysis of twenty-year trends in yearly surveys of college freshmen by Astin, Green and Korn, 1987).

One of the reasons for the minimal research attention to these issues is the problem of defining and measuring what is meant by adolescents' understanding of society or commitment to the public good. This paper will begin by examining two existing approaches to defining and measuring the adolescent's understanding of the public good. The final and most extensive section of the paper will deal with a new method of conceptualizing and assessing this understanding using think-aloud problem solving and related tools of

cognitive psychology to produce graphic maps of adolescents' schemata of society, self and others, a method which should be suitable for use in investigations of the effects of mass media.

Stage Theories of Moral and Cognitive Development As Approaches to Adolescents and the Public Good

Several stages theorists have dealt either implicitly or explicitly with issues relating to adolescents' conceptions of the public good.

Kohlberg's theory described six stages in the development of moral judgement based on responses to hypothetical moral dilemmas framed largely at the personal level with little explicit reference to society (Kohlberg, 1969). However, different stages imply different relationships of the individual to society and the polity. For example, the relationship implied by the conventional-conformity morality of stage 3, the level at which many adolescents operate, is quite different from the obligations imposed by connecting one's moral actions to the social system (at stage 4), or to a sense of the social contract (at stage 5).

Extrapolating from this work, the conceptualization of adolescents' understanding of the public good implicit in Kohlberg's theory relates to the extent to which the individual making a moral decision refers to a social contract or sense of obligation. However, this is not a central topic in research on this theory.

Some of the work begun by Kohlberg's group before his death and recently published has made more explicit the way in which personal moral development relates to society and the collective good. This

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group (Power, Higgins, & Kohlberg, 1989) worked with a number of schools to help them restructure as "just community schools," schools in which the appeal of the collective is balanced with the rights of individual students and the promotion of their moral growth. These micro-political environments involve high levels of student responsibility for setting and accepting rules in areas such as drug use and respect for property, as well as first hand experience with conflict between the individual's desires, the group's desires and the power structure of the outside world. Teachers serve as process facilitators, encouraging students to see others' perspectives and raising issues of fairness and morality during school meetings. A study of three of these alternative high schools with ethnographic as well as structured methods found that moral maturity appeared to be stimulated in the just community school. However, the increases were not as substantial as expected given that the whole school environment had been restructured. Strong collective norms were the most powerful aspect of the school's moral culture. This is a promising direction, but the measurement of collective norms is still too vague to provide a generally usable method for our purposes.

Eisenberg's research on altruism and sharing behavior in children also makes a contribution to understanding of the public good as young people view it (Eisenberg, 1987) and to the possible existence of stages in prosocial reasoning among adolescents (Eisenberg, 1979). The large majority of research on altruism, however, deals with pre-school and elementary school children and

not with adolescents.

To look at another approach, some investigators have attempted to find stages in political thinking which parallel the stages described by Piaget in logical and mathematical thinking. Furth (1980) related Piaget's concrete and formal operational stages to British young people's understanding of social and political institutions, while Connell (1971) studied Australian young people to delineate stages of political understanding. Both noted the idiosyncratic, self-focused and partial images of the political world which characterized young children. At about the age of 10 most children began to notice political alternatives, at first relatively isolated from each other, and to realize that opposing policy positions existed. Some adolescents developed an understanding of the political order in which there were multiple relationships among the self and political actors and made explicit references to a sense of community welfare.

Extrapolating from Furth's and Connell's work, adolescents' understanding of the common good might be assessed through interviews about their experiences with political situations in their own lives or on television, by looking for references made to the needs of others or to the way that political leaders promote common aims. Although stages are described by Furth and by Connell, there is not very substantial evidence in this work for clearly distinct stages or for an invariant sequence.

Selman has also proposed a theory (Selman, Beardslee, Schultz, Krupa, & Podorefsky, 1986 and Brian-Meisels & Selman, 1984)

suggesting that there are four stages of skills in interpersonal negotiation, ranging from dealing with an incident impulsively (e.g. fighting), to a one-way negotiation (e.g., giving in), to a reciprocal negotiation (e.g., asking for reasons from the person with whom one disagrees), to mutual/collaborative negotiations (e.g. working out the problem in terms of mutual needs). In responding to hypothetical situations of interpersonal conflict, 14-16 year olds were much more likely to use reciprocal strategies than were 11-13 year olds. Mutual collaborative negotiations did occur in adolescent groups, but were not the predominant mode. Enright, Olson, Ganiere, Lapsley, and Buss (1984) in teaching adolescents negotiation strategies found it effective to ask them to consider the societal perspective, but most of this research deals with face-to-face groups.

Extrapolating from Selman's conceptualization, adolescents' understanding of the common good might be assessed by their ability to use mutual collaborative negotiations to deal with a problem situation and to see the variety of groups with which one might deal in order to arrive at a solution.

Although interesting directions are suggested by these four stage theories, their conceptualizations of what adolescents mean when they refer to the common good are relatively vague and must be derived from measures which are not targeted on this issue.

Political Socialization Survey Methods As Approaches to Adolescents and the Public Good

There is considerable evidence from surveys, conducted either

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in pencil-and-paper form or as structured interviews, that many American young people are alienated (in the sense of lacking in trust in the government) and unlikely to actively participate in actions in support of the common good either through conventional political participation (voting, writing letters to elected officials) or through what is called "unconventional participation" (protests or demonstrations). These surveys are corroborated by a number of qualitative studies which find high levels of alienation (Larkin, 1979; Steinitz & Solomon, 1986; McNeil, 1986).

As an example of a political socialization study conducted with a structured interview, Sigel and Hoskin (1981) presented high school senior respondents with three hypothetical situations dealing with a local factory polluting the air, a state official revoking drivers licenses for those under 21, and a proposed national policy drastically restricting citizens' freedom to criticize the government. Demonstrations and other unconventional political activities had a prominent place in the set of available political actions in the late 1970's, in contrast to earlier surveys. However, few respondents actually reported engaging on a regular basis in high effort participation on such public issues. Only about a third of these adolescents were at all active in politics; the remainder ranged from being apathetic (about 30%) to attending to politics and participating only if an issue was of direct personal concern. Working class youth were especially likely to be passive.

American adolescents share many characteristics with their

peers in other industrialized countries. The IEA cross-national Civic Education Survey also dealt with issues relating to the common good (Torney, Oppenheim, and Farnen, 1975), finding a tendency for early adolescents to believe that institutions perform functions which support the public good -- e.g., laws and Congress or Parliament promote a better understanding so people can live and work together. However, students in the U.S. tended not to participate in political discussion outside the classroom with peers or parents, an activity much more commonly reported in West Germany and Finland. Boys in all countries were more aware of political conflict than girls, more likely to be participants in political discussion, and less likely to be supportive of political rights for women (Torney-Purta, 1984).

Conover, Searing, and Zinni (1988) in one of the few currently funded studies of political socialization, focus on civic virtue which they defined as "the willingness of the citizen to act on behalf of the collective rather than his or her own interest." (p. 4) Their measure had three items: one relating to willingness to make personal sacrifices for the good of the country, another relating to seeing one's actions benefiting the country as a whole, and a third relating to working with others in the community to get things done. Alpha reliabilities were not very high, perhaps because of the mixture of national and local community referents in the items, and work is continuing on the measure.

Extrapolating from these studies of political socialization, one would measure adolescents' understanding of the common good

using answers to survey questions which asked for generalized statements about the political community, political institutions, and the individual's participation.

Although most political socialization studies in the United States have focussed on the national government and its leaders, the local community is increasingly recognized as a context for young people's learning about politics and society. In a review of youth programs, beginning with the CCC during the New Deal, Moskos (1988) concluded that programs reaching all social classes with the major emphasis on enhanced social bonding to the community and its institutions could have great civic benefits. Newmann and Rutter (1983) noted that an effective community service program may have four types of impact: on personal psychological development by providing a transition from dependence to independence; on intellectual development by enhancing the ability to use information in everyday problem solving; on social development by increasing the sense of empathy and bonding to social institutions; and on social obligation by increasing the willingness to contribute to and not merely take from society. Although the effects of these community service programs appears to be positive, only a few qualitative studies have assess these impacts (Hedin, 1989).

Extrapolating from these studies, the adolescents' understanding of the common good would be related to observations and reports of behavior which suggest investment by young people in the welfare of others. This approach is more satisfying than that of attitude surveys, but shares with the interview measures

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described in the previous section vagueness and lack of specificity. In summary, neither surveys relating to political socialization at the national level nor studies of local community action programs present a compelling conceptualization or method of assessing adolescents' conception of the public good.

Domain-Specific Cognition about the Political System As an Approach to Adolescents and the Public Good

Given the deficiences of both stage theory approaches and attitudinal surveys, an approach which uses current methods in cognitive psychology to assess domain-specific cognitions about the political system and actions for the common good is explored here. Basic to the understanding of cognition specific to the domain of the polity and the society is the idea of schema or representation, defined as a cognitive structure which organizes previously acquired and newly received information; which has an impact on remembering and retrieving information and using it for solving problems; which may be related to attitudes. Glaser (1988) has defined schemata as "modifiable information structures that represent generic concepts stored in memory." A schema is constructed by an individual and is therefore not a faithful reflection or copy of a reality existing in the world.

The concept of schemata and the methodologies of cognitive psychology have considerable potential for developing a concrete measure of adolescents' understanding of the public good. The approach chosen for eliciting schemata of the political and social system is think-aloud-problem solving. There is considerable recent

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research on problem solving in mathematics and science (Chi and Glaser, 1985) but very little in the area of the social sciences. Voss and his colleagues have analyzed the cognitive processing associated with solving social science problems by novices and experts. Voss's framework is domain specific and addresses some of the differences between these problems and problems in logic or mathematics (Voss, Tyler, and Yengo, 1983). In analyzing the problem solving strategies in these think-aloud protocols, the sequence of elements of the argument (e.g. stating a subproblem, stating a solution, evaluating a solution, stating a fact) is of critical importance. Voss notes that experts (professors) spend much more time defining a problem and are more attentive to constraints upon specific solutions than are novices (undergraduates). He argues that the structuring phase, in which an individual sets out goals and reaches into the knowledge base for relevant information, is an important part of solving a social science problem.

Pilot Research on Schemata of the Political System

I have recently modified a think-aloud problem solving technique to collect data which can be represented in graphic models of schemata for the social, political, and economic systems as seen by adolescents. I have tested the feasibility of this methodology by interviewing adolescents participating in an educational program whose aims are to increase the accuracy, complexity, and connections present in adolescents' social, political, and economic schemata. The remainder of this section presents examples of the use of this

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think-aloud problem solving technique to elicit **material for making** graphic models of individuals' schemata.

The data were gathered through interviews regarding international problems conducted at the Maryland Summer Center for International Studies, a two-week program for gifted and talented students aged 13-17. Following two days of lectures and readings, students are divided into six teams (Brazil, Nigeria, Mexico, the USSR, France, and Japan). Each team meets in its own room which includes an IBM computer linked to a central unit. Students on one team send messages to other teams over this computer system. The topics of these on-line conferences are issues such as North-South relations, human rights, and nuclear arms control. Given special importance is the aim of enhancing thinking skills as the students discuss with each other the content of messages they plan to send before the computer-network is engaged to transmit them. (See Torney-Purta, 1989, for an analysis of observations of these groups.)

Two interviews were conducted with each of eighteen participants. The pre-session interviews were conducted on the first full day of the summer program. The second set of interviews (post) was conducted ten days later as the simulation was concluding. The following hypothetical question was posed:

> Imagine you are the finance minister of a developing country. The interest payment on your debt to banks in the industrialized countries is due, but there is not enough money in your treasury to pay this debt. What would you do to solve

this problem. Just think aloud and say whatever comes to your mind about how you would solve this problem.

After the student indicated that he or she was finished, the interviewer asked whether the respondent could see any problems with the solutions, any reasons they might not work.

Two kinds of analysis were explored. First, the responses of the 18 students were rated (after a reliability check) on a number of dimensions suggested by studies of developmental processes in young person's understanding of history (Jurd, 1978), and by Selman's theory and the work of Connell previous reviewed. Pre-post differences in these ratings were tested for significance using t tests. After the simulation the participants' think aloud answers were more likely to mention reciprocity or the need for trade-offs in arriving at a solution ($p = .002$); they were also somewhat more likely to mention negotiation ($p = .077$) and to refer to a real world situation or country ($p = .072$). However, this coding did not capture what appeared to be substantial differences in complexity between pre and post-simulation responses.

Second, some of the responses were examined using Voss's coding scheme for sequence of problem solving. That coding scheme proved difficult to apply to these answers, because the adolescents seldom spent any time in constructing the problem before offering the first solution.

Finally, problem solving research on logical problems was considered as a source for the mode of analysis of these protocols. Hayes and Simon (see Hayes, 1981) studied the processes by which an

individual encodes the written instructions for a complex logical problem, looking at the "actors" and "legal" ways for them to operate in the problem situation. Upon reflection, it seemed that there were intriguing similarities between this discussion of actors, actions and constraints upon actions in solving logical problems and the way in which specialists in international relations discuss political actors (leaders or international organizations) and actions in which they can engage (e.g., decision making or negotiation). It was decided, therefore, to analyze the responses of a subset of respondents (the six members of the Brazilian team) in terms of actors who might be approached by the finance minister (e.g. banks), actions which they might undertake (e.g., refinancing the loan), constraints on actions (e.g., banks might not agree), and connections between actions (e.g., one country's defaulting might lead to problems in the economy of another country). In order to make this more concrete, graphic models of the schemata of the international system implied in the respondents' answers were drawn.

The schemata derived from the think-aloud responses of three of the Maryland adolescents from the Brazilian team are presented in the attached figures. Pre-session responses appear on the top of the page; post responses appear on the bottom. The basic elements, represented by triangles, are the <u>actors</u> mentioned who might be approached by the finance minister or involved to solve the problem. The most frequently mentioned actors were the banks who held the loans and the governments or economies of the countries where the loans were held. On the figures, the ovals are used to represent

particular actions which these actors might perform (e.g. the banks might be asked to reschedule your debt; one's own economy might encourage domestic markets for goods). Arrows are used to represent the direction of the requests. Below that in the diamonds constraints on these actions are represented. No sequence of discussion is indicated in these figures.

On the average, more actors and more actions were mentioned post-simulation. In particular the students who were playing on this Brazilian team, where debt was a big issue, were more likely after the simulation to propose getting together with other Southern or debtor nations to form an interest cartel or in some way to put pressure as a group on the developed countries to lighten the debt load. They were also much more likely after the simulation to refer to actions within their own economies, particularly austerity measures.

In general, there was considerable similarity between the pre- and post-session interviews for any given individual, regarding the actors in the economic system (compare the top and bottom of each figure). However, the schemata were clearly more complex after the simulation experience for three of the six Brazilian team members; for the other three team members the schemata were slightly more complex, almost exactly the same or slightly less complex. The technique seems to be sensitive to certain types of cognitive restructuring.

Let us examine each of these three schema-maps. The schema of the international economic system for the individual whose response

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is graphed in Figure 1 is very rudimentary at the pre-session interview. The only actions mentioned have to do with investment in and export to another country's economy. This is the only respondent of the six who did not mention acts particular to a bank or financial institution. After the simulation multi-national corporations, lending institutions in other countries, and other Southern nations were mentioned, in addition to other countries. The constraints listed were relatively rudimentary.

The schema of the international economic system in Figure 2 is somewhat more complicated than that shown in the previous figure at the pre-session interview. Banks and the country's own economy are mentioned; the banks are to be negotiated with and asked to delay, while one's own economy is to be used to find other assets. Constraints are mentioned for each action. The post-session interview includes banks who are to be negotiated with and might be asked to grant a moratorium (a more technical term than delay). A more personalized constraint is given at the pre-session (your country looks bad) than at post-session (it might totally corrupt the economy of the other country).

New actors introduced at the post-session interview by the individual represented in Figure 2 are other developing countries with whom one might establish an interest cartel, and other developed countries who might be asked for debt aid or to trade raw materials for aid. This student does not mention constraints in an elaborated way, either at pre- or at post-session, although a connection is made between taking action with an interest cartel and

having a negative impact on banks in other countries.

Figure 3 represents the respondent who shows the greatest change in complexity of schema. In fact she actually commented before the pre-session interview that "I don't know that much about economics" and at the post-session interview, "there are a lot of things I could say; I know about this because we are Brazil." There are only two actors pre-session, banks and another country's government. Negotiation is mentioned as are several constraints and impact on the world economy. However, the language is somewhat vague ("reschedule your thing"). At the post-session interview, the banks and other developed countries' governments, are given quite complex activities depending on negotiation, recognition of reciprocity ("depends on what you are able to give") and a sense of sequential activities ("tie interest payments to economic growth"). One's own economy, a new actor, is given three possible actions ranging from diversification to austerity measures. Two of the three are seen with constraints and those are linked in a much more complex way to the global economy. In addition, other developing countries are mentioned. This individual's responses showed so many linkings between actors, reactions, and elements in the answer that it seemed appropriate to include actual arrows on the figure to indicate connections.

In summary, a graphic technique has been illustrated which represents actors, actions and constraints in the international economic and political system. Actors engaged only in what most would agree were legitimate activities (e.g., banks were not asked

to undertake austerity measures). The use of a problem-solving think-aloud interview and the extraction of graphic schemata maps of the international system, shows considerable promise as a way to apply the methodology of cognitive problem solving to research on cognitions of the social and political world. This method provides a concrete conceptualization of what it means for someone to have a complex concept of a social or political system, that is a schema for connecting a number of relevant actors, their actions, and constraints. These schemata have interesting parallels to conceptualizations of actors and actions involved in the solutions to logical problems.

Even the three individuals whose schema maps are presented here are clearly different from each other. Thus the technique seems to capture individual differences. The technique also appears to represent both continuity over time and change or restructuring of schemata over time. The large majority of the actors mentioned in the pre-simulation interview are also mentioned in the post-interview. There are more actors, and the complexity of their actions and constraints upon them differ, however.

An important issue is whether this methodology can be applied to problems which pose issues of the common good of one's own society, rather than problems in the international system. Several questions dealing with domestic political issues -- e.g., a mayor who discovers that a major industry in his town has contaminated the ground under a school -- are currently being piloted. As long as the problem is one in which several potential actors might take any

of several action and in which there are potential connections and constraints upon those actions, the think-aloud protocols can be mapped in the way illustrated.

There are, of course, difficulties with the use of hypothetical problems because particular characteristics of the situation posed may influence the response. Psychologists are understandably wary of building a theory on responses to a single hypothetical situation, arguing for example that early versions of Kohlberg's theory relied too much on responses to the Heinz dilemma. However, keeping these issues in mind, the use of hypothetical problem solving is nevertheless a promising approach.

I am also designing an inquiry about the schema-maps which will allow an assessment of some attitudes toward actions which might be taken. For example, the respondents will be shown a prototype schema map and asked whether they view a proposed action as right in an ethical sense, or as potentially effective in a pragmatic sense? Respondents will also be asked to take the perspective of various actors and speculate about their motives in deciding upon certain actions.

Reconceptualizing Adelson's Research Using Graphic Schema Maps

The next section of this paper will present further evidence for using think-aloud problem solving and its analysis with schema-maps in studying adolescents' understanding of the common good. The results of research conducted by Adelson and his colleagues more than twenty years (1969, 1966) will be reconceptualized with this methodology. In their research, students were presented with the

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hypothetical situation of a group of individual marooned on a Pacific island and required to solve a variety of emerging problems (e.g., an individual's right to refuse smallpox vaccination versus the public health).

The eleven year olds in their sample appeared to piece together answers from relatively disconnected pieces of information and opinion. There were especially substantial contrasts between the responses of eleven or thirteen-year-olds and those of fifteen year olds. The responses of eighteen year olds were elaborations on the types of responses given by fifteen year olds.

Gallatin refers to the following as levels of political thinking in the Adelson data:

> Level 1: The confused, simplistic, punitive, or concretely pragmatic response.
>
> Level 2: Transition responses, answers that express the rudiments of a political concept but remain somewhat fragmentary or personalized.
>
> Level 3: Conceptual response, answers that are phrased in terms of a political principle or ideal (Gallatin, 1976, p 352)

Level 3 responses to hypothetical dilemmas showed the ability to "speak from a coherent view of the political order" and to refer to a "sense of community and the social contract" (Adelson et al, 1966, p. 297; Gallatin, 1976).

The framework proposed in this paper gives a somewhat more concrete way of looking at these findings. According to this

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framework, the older students interviewed by Adelson and Gallatin possessed more complex schemata for the political system and political community. Within these schemata individual citizens and government officials were actors who could undertake actions, some of which would contribute to the public good. Constraints would exist on certain actions, some of them relating to public opinion and perceptions. Adelson noted that older students were able to relate social institutions both to the community as a whole and to the individual; in the schemata framework that means an expansion in the potential actors to include institutions and the community as well as persons such as political leaders or individual citizens. Older students, according to Gallatin and Adelson, were able to trace the long range consequences of various actions both for the political community as a whole and for the individual. In this framework, that means that they were able to see future as well as present constraints. Further, for the older respondents these constraints originated not only in the individual but in the community at large and its response to political issues; there were more connections and also more recognition of the reciprocity of actions between individuals and government, as well as fewer unilateral actions by government.

Conclusions

Schema-mapping provides a concrete way of operationalizing either a diffuse conceptualization of society or a complex and well organized conceptualization which includes institutions, principles, and linkages of action to the public good. Asking adolescents to

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solve problems in which public and private interests conflict and the construction of schema-maps including actors, actions, and constraints is a promising direction for conceptualizing and measuring adolescents' understanding of the public good.

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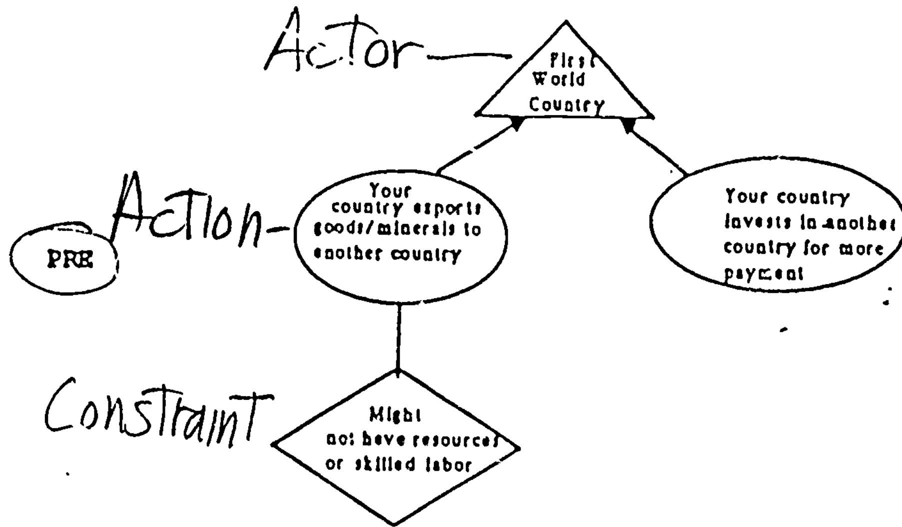
Schemata of Actors, Actions, and Constraints in International Debt Crisis

Pre-Session on Top / Post-Session on Bottom



Actor

Other countries' economies

First World Countries banks/US & USSR

Multi-National Corporations

Other Southern Nations

POST

Action

Your country exports raw materials to other countries

Your country borrows from other countries

Your country has MNC invest in your country

Your country binds together to establish an interest cartel

Constraint

There might not be enough

Poor credit means they won't lend

Not all countries would agree

Figure 1

Schemata of Actors, Actions, and Constraints in International Debt Crisis
Pre-Session on Top / Post-Session on Bottom

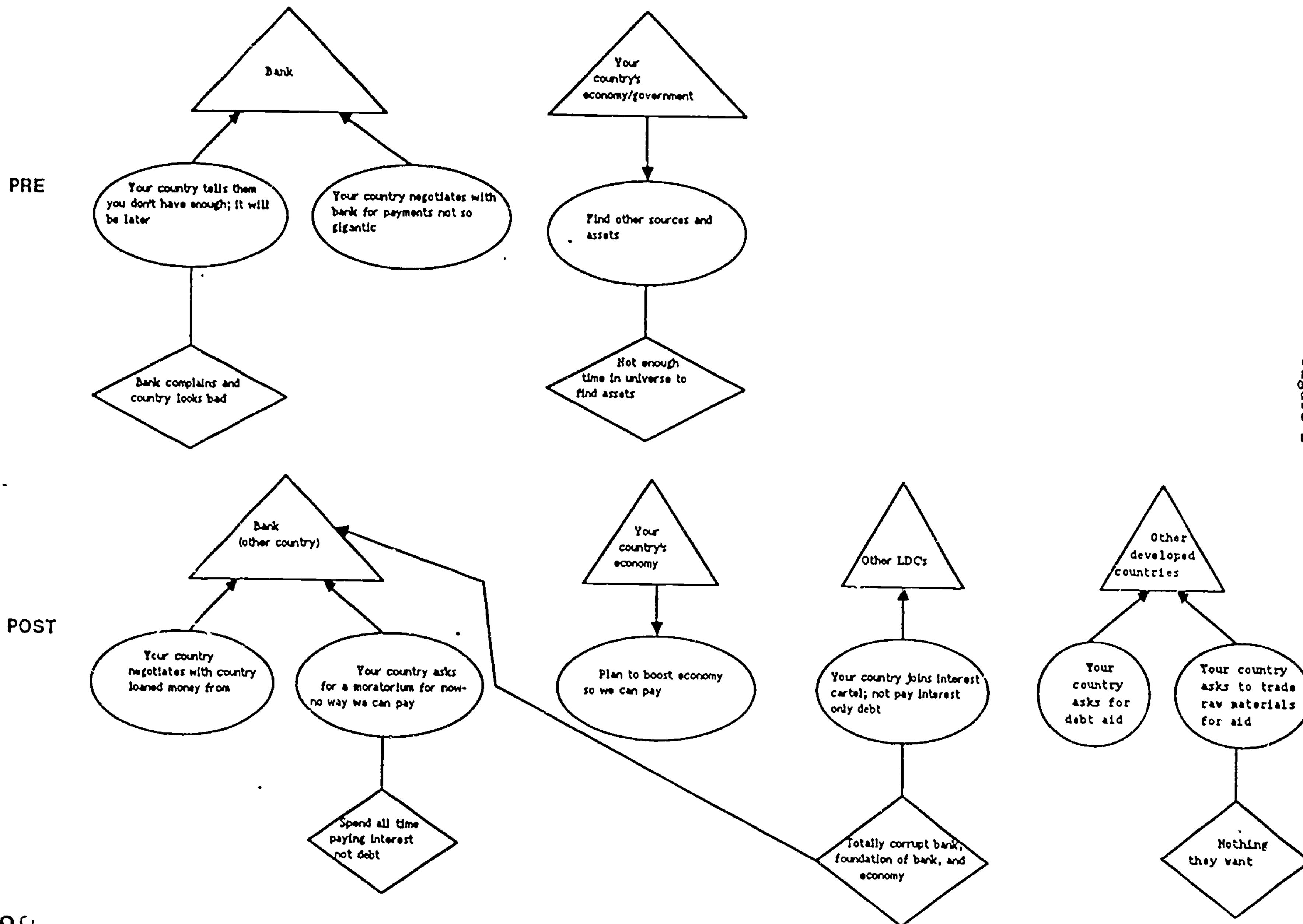


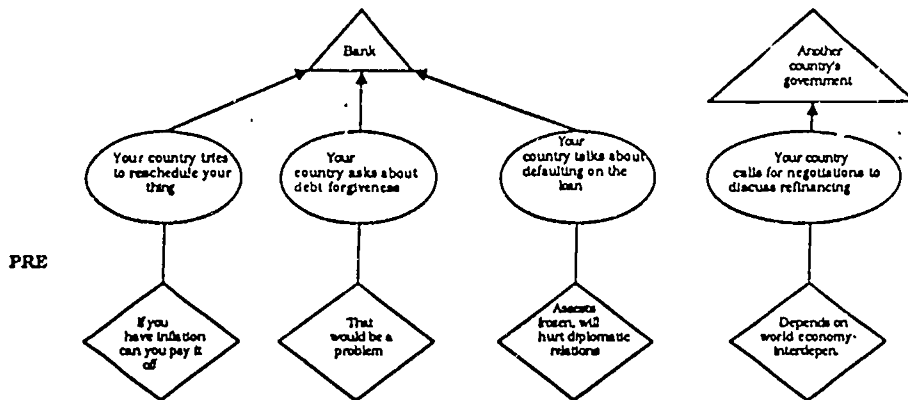
Figure 2

ERIC

Figure 3

Schemata of Actors, and Constraints in International Debt Crisis
Pre-Session on Top / Post-Session on Bottom

PRE



POST

Bank
Other developed country's government
Your country talks about debt rescheduling
Your country talks about moratorium on interest
Your country asks to tie interest payments to growth of economy
Your country talks to them
Invest money saved on interest in your economy
Could follow with re-investment in own country
Gives incentive for economic growth
Depends on what you are able to get
Stimulates growth
Own economy
Other southern countries
Diversifies and does not depend on one export
Encourages domestic market
Institutes austerity measures, wage-price freeze
Your country joins a debtor's cartel and doesn't pay
Your country joins interest capitalization cartels & defaults on interest
Don't have to depend on exports
Could lead to a recession
Would affect global economy, freeze assets
Terrible effect on global economy and has no benefits
People could not buy your exports

ERIC