

PREFACE

The Faculty Journal of Delaware State College is dedicated to those whose primary responsibility is student instruction but who feel that their mission would be incomplete without continued research, study and creative effort.

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## THE EFFECT OF IMAGERY GENERATION ON SCIENCE RULE LEARNING

William J. McIntosh

### ABSTRACT

This study was designed to investigate the effect of teacher induced imagery generation on rule recall and transfer. The independent variables were the degree of imagery encouragement during instruction and the reported utilization of images while performing problem solving tasks on a criterion test. The dependent variable was scores on the criterion test. The result of the study indicate that imagery utilization significantly facilitates rule recall and also that imagery encouragement during instruction leads to significant rule transfer gains for low imagery students. The implications of these findings for teaching are addressed.

### INTRODUCTION

The NSTA Position Statement on Science-Technology-Society: Science Education for the 1980's reaffirmed the facilitation of problem solving skills as one of the longstanding objectives of science education. Problem solving refers to a wide range of intellectual activities which in its most basic form can be thought of as an application of learned rules. While this is not the most sophisticated form of problem solving, it seems to be the most prevalent in contemporary science education (West and Kellett, 1981). Consequently, it would seem to be a worthwhile task to explore those instructional variables that might be arranged to increase the probability of successful rule application.

Research has indicated that the pedagogical enhancement of mental images might be a worthwhile pursuit. The work of Paivio (1971), Kulhavy and Swenson (1975) and others has firmly established the usefulness of image formation for recall tasks. However the effectiveness of imagery meditation in rule transfer situations has not been clearly established. Evidence has come mainly from studies designed to investigate the effects of imagery inducing media and/or models which are believed to stimulate imagery. Works by Zimmerman and Rosenthal (1972) and Holliday (1975) support the notion that transfer tasks can be facilitated by the utilization of imagery related media.

Other researchers have instructed students to form images during a



learning situation. While this encouragement technique has been successful in recall situations (Anderson and Kulhavy, 1972) its effectiveness for facilitating rule transfer has been inconsistent (Tennyson, 1978; Winner, 1976). Gagne and White (1978) perceive imagery as a memory structure whose potential intervention in rule learning situations has not been properly investigated. The authors delineate a number of possible research directions. One suggestion is that the learning of a rule can be augmented if the learner creates an image of a specific concrete object that is an instance of a component concept of that rule. This hypothesis provides the research direction reported in this paper.

### PURPOSE

This study was designed to investigate the effects of imagery encouragement and actual imagery utilization on a rule recall and transfer task. The former variable was arranged to determine if students that were encouraged to create a mental image of a specific concrete object that is a component concept of a rule, will perform significantly better than those not encouraged to do so on a criterion test measuring rule recall and transfer. Additionally, it was of interest to determine whether students that actually reported using a high degree of imagery would perform significantly better on the criterion test than students not reporting high imagery use.

### PROCEDURE

This study was performed at an all boys high school in Philadelphia. Four homogeneous intact ninth grade physical science classes were randomly assigned to one of two treatment conditions, imagery encouragement and imagery discouragement. Each treatment group consisted of twenty-six students. Both groups were exposed to a non-mathematical presentation of Boyles' Law, Charles' Law and Gay-Lussacs' Law. All instruction was presented by the incumbent physical science teacher in an expository mode which was supported, in part, by relevant demonstrations. Lesson plans were forwarded to the instructor prior to the experiment. The instructor and the author clarified procedures and pretested demonstrations well in advance of the actual experiment, however the instructor was not informed of the hypotheses of the experiment. Students in the imagery encouragement group were instructed to create an image of a typical gas as it responded to variances in either pressure, temperature or volume. Emphasis was placed on representing the rule as an internal image. Furthermore, students were instructed to make a drawing of the image in their notebooks.

Students in the imagery discouragement group were not instructed to create images nor were they encouraged to make drawings. Instead, the subjects were required to write the rule and repeat it aloud during the

learning sequence. The use of the antagonistic encoding method used in this instance is suggested by Gagne & White (1978) in these circumstances and has been used previously by Bandura, Grusec and Menlove (1966) and in studies by Rohwer (1973).

Instruction of the gas laws took place over a three day period. One additional day was required for administration of the criterion exam. Immediately following this exam, students were requested to complete an introspective questionnaire that was designed to determine the degree to which students utilized imagery techniques while answering the test items. Post learning imagery questionnaires have been previously used by a number of imagery investigators (Anderson & Kulhavy, 1972; Kulhavy & Swenson, 1975; Salatas & Flavell, 1976).

### INSTRUMENTATION

The gas law criterion test was designed by the author to measure recall and transfer of the gas laws as presented in this study. A panel of university science educators deemed the test to be valid in content. A Spearman Brown split half analysis yielded an acceptable reliability index of .74. The first six test items measured recall and were multiple choice in format. The latter six items were essay in nature and required students to use the rules they learned to solve novel problems. Each test item was worth one point toward a total score of twelve. Transfer items needed to meet two criteria to be accepted as a correct answer. The students were required to 1) answer the question correctly and 2) provide an acceptable explanation of their answer. The explanation was evaluated by assessing the extent to which it adhered to previously established criteria. Given the 5 point rating scale from the Marks Vividness of Visual Imagery Questionnaire (Marks, 1973) students were asked to communicate the degree of imagery that they used when answering each criterion question. The Marks questionnaire was designed to assess a student's ability to form and to a limited extent manipulate visual images. A median split of each student's composite imagery scores served to categorize students into either a low imagery utilization or a high imagery utilization group.

### RESULTS

Two separate 2 \* 2 ANOVA's were employed to statistically analyze the data. The descriptive statistics representing this data are presented in Table I. The first ANOVA (Table 2) displays an analysis of recall criterion scores as a function of treatment and actual imagery utilization. A main effect for imagery utilization ( $F(1,51) = 5.56, p .05$ ) was found. No other effects approach this confidence level. Figure 1, showing group mean values, graphically illustrates the relationships associated with this ANOVA.



**TABLE 1**

Sample Numbers, Means and Standard Deviations for Treatment and Imagery Utilization Under Recall and Transfer Conditions.

		Treatment											
		Imagery Encouragement						Imagery Discouragement					
		Recall			Transfer			Recall			Transfer		
		n	x	SD	n	x	SD	n	x	SD	n	x	SD
Imagery Utilization	Low	12	3.17	1.21	12	3.67	1.37	10	3.10	1.51	10	2.40	1.11
	High	14	3.79	1.08	14	3.36	1.23	16	4.25	1.30	16	3.75	1.64
Composite Imagery Utilization Scores		26	3.48	1.15	26	3.52	1.30	26	3.68	1.39	26	3.08	1.46

**TABLE 2**

Analysis of Variance Summary for Recall Criterion Scores as a Function of Treatment and Actual Imagery Utilization

Source of Variation	Sum of Squares	df	Mean Squares	F	Associated Probability
Main Effects	10.96	2	5.48	3.13	.05*
Treatment	.75	1	.75	.43	.52
Imagery Utilization	9.73	1	9.73	5.56	.02*
2-Way Interactions	.89	1	.89	.51	.48
Treatment X Imagery Utilization	.89	1	.89	.51	.48
Explained	11.85	3	3.95	2.26	.09
Residual	83.92	48	1.75		
Total	95.77	51	1.88		

\*P < .05

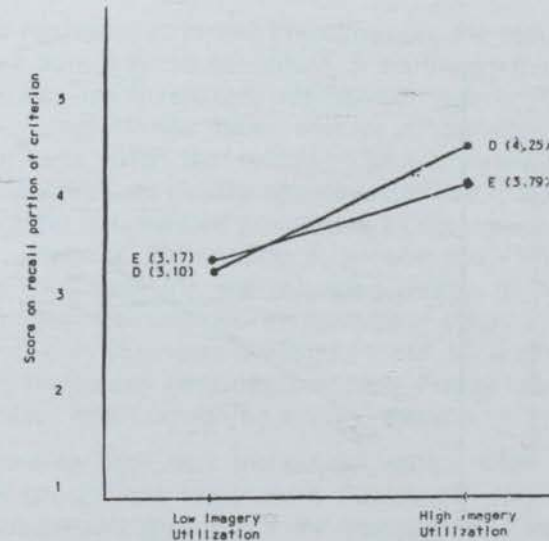


Figure 1 Line graph illustrating scores on the recall portion of the criterion exams as a function of treatment condition and actual imagery utilization. (Note: E = Imagery Encouragement, D = Imagery Discouragement.)

The second ANOVA (Table 3) displays an analysis of mean transfer scores as a function of treatment and actual imagery utilization. Unlike the recall data, the imagery utilization variable was not significant. It is of interest to note, however, that the two way treatment and imagery utilization interaction did display significance beyond the .05 level. Figure 2 graphically depicts this relationship.

**TABLE 3**  
Analysis of Variance Summary for Transfer Criterion Scores as a Function of Treatment and Actual Imagery Utilization.

Source of Variation	Sum of Squares	df	Mean Squares	F	Associated Probability
Main Effects	4.10	2	2.05	.99	.38
Treatment	1.22	1	1.22	.59	.45
Imagery Utilization	3.15	1	3.15	1.53	.22
2-Way Interactions	8.68	1	8.68	4.20	.05*
Treatment X Imagery Utilization	8.68	1	8.68	4.20	.05*
Explained	12.78	3	4.26	2.06	.12
Residual	99.28	48	2.07		
Total	112.06	51	2.20		

\*P < .05



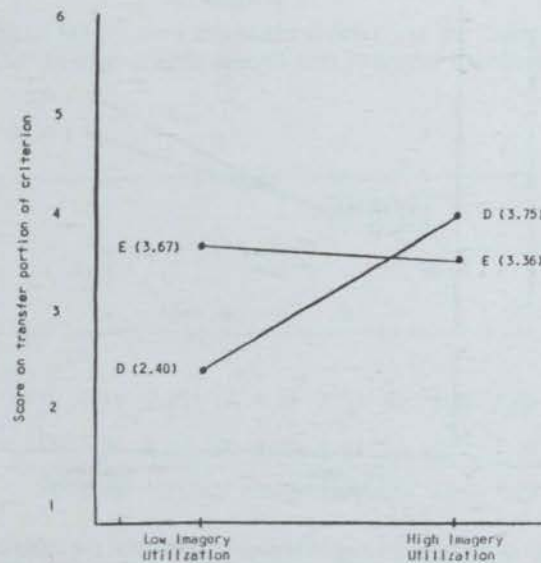
## DISCUSSION

For the sample represented in this investigation, the results of this study indicate that encouraging the formation of an image that represents the main concept in a scientific rule may not facilitate rule recall. This result was somewhat surprising. It has been shown in previous cases (Rasco, Tennyson & Boutwell, 1975), that recall can be facilitated by using imagery encouragement techniques similar to those used in this study. It is possible that considering the abbreviated time frame of the investigation, students uninitiated in imagery enhancement procedures, required a more comprehensive treatment for the intended image to be formed. Pre-experimental imagery training periods have been employed successfully in some previous studies (Pressley (1976); Lesgold, McCormick & Golinkoff (1975)) and may have been advantageous here. Future researchers should consider this factor when designing similar studies.

It is of interest to note that the overall recall mean of the imagery encouragement group was lower than the overall recall mean for the imagery discouragement group. For the transfer condition however, the experimental group had the higher overall mean. While the lack of a significant  $F$  value does not support any substantive conclusions, the possible implications of this observation make it worthy of further study. For example, it seems that a drill activity such as writing a rule and repeating it aloud reinforces word recall, which is a rote learning task, to a greater extent than imagining and drawing a component concept of that rule. Perhaps the image that was formed during the latter activity makes understanding the rule during its presentation more likely. It may be that the initial images are being modified during input to allow accommodation of the corresponding rule into the students cognitive structure. If a rule is meaningful to the student during its initial presentation, it follows that successful transfer would be more likely at a later time.

The significant main effect for imagery utilization provides additional evidence that students who report using a high degree of imagery will perform better on a rule recall test than those students reporting little imagery use. This observation is consistent with Paivios' findings and serves mainly to extend the generalizability of his hypothesis to include the recall of scientific rules by the sample in this study.

While reported imagery utilization seems to mediate rule recall, there seems to be little advantage to using imagery during rule transfer tasks. However, a glance at Figure 2 may serve to qualify this interpretation. The disparate mean scores between the low imagery encouragement and discouragement groups tend to make one wonder if a significant difference would have occurred between the two imagery groups had the low imagery encouragement group not performed at a level consistent with the high imagery group. Analysis of the interaction confirms that the low imagery



**Figure 2** Line graph illustrating scores on the transfer portion of the criterion exam as a function of treatment condition and actual imagery utilization. (Note: E = Imagery Encouragement, D = Imagery Discouragement.)

A post hoc Scheffe test was used to analyze pair-wise comparisons. Since no pair-wise comparisons were found to be significant, a Scheffe complex comparison was calculated (Table 4). The low imagery, discouragement group was found to be significantly different from the other three groups.

**TABLE 4**

A Posteriori Analysis of Transfer Interaction Scores Using the Scheffe Complex Comparisons Procedure.

Group	n	$\bar{x}$	Coefficient	F
Low Imagery Discouragement	10	2.40	-3	19.54*
Low Imagery Encouragement	12	3.67	1	
High Imagery Discouragement	16	3.75	1	
High Imagery Encouragement	14	3.36	1	

\* $P < .05$



discouragement group was significantly different from the other three groups. Apparently imagery encouragement was a useful treatment for those students reporting little imagery use during transfer. Additional research might consider the effects of reported imagery without the confounding effects of imagery encouragement.

While the lack of a main effect on the transfer task suggests caution when interpreting the interaction condition, some interesting considerations may still arise. The fact that the mean scores of the low imagery encouragement group was higher than the low imagery discouragement group would seem to suggest that image creation during information input leads to a greater probability of rule transfer even though those images were not used during the problem-solving task.

Using a related instructional strategy, Gable & Sherwood (1983) found similar results. In their article, the authors suggested that students who preferred a verbal learning approach (low visual) and who were presented with a highly visual (imagery inducing) lesson were required to pay closer attention to the lesson material if they were to be successful in problem-solving situations. Perhaps the students in this study paid closer attention to the imagery enhancement procedures that were presented and in fact may have processed some concepts as images as well as some concepts in their preferred verbal mode. Imagery encoding may have been advantageous even though the student preferred not to use these images during problem-solving.

Similarly, some students may have created mental images even though antagonistic procedures were employed during the presentation of the original concept. Students who use a high degree of imagery when problem solving would likely create images when processing the information as well. This might account for the superior performance of the high imagery discouragement group.

The use of different processing systems during encoding and retrieval has been suggested by Paivio (1971). According to Paivio's dual coding theory, information is processed either as images or as written or aurally perceived propositions. Both systems can exist independently or they may exhibit crossover relationships between encoding and retrieval. That is, regardless of the encoding mode, information can be retrieved as either images or words. Even though the student preferred not to use images during problem-solving, the formation of them during information processing may have enhanced their initial understanding of the rule. This, in turn, may have resulted in enhanced problem solving capabilities.

It is not inconsistent that the instructional strategy should fail to facilitate recall for low imagery group. Consider that recall, being a low-level cognitive task, may not depend on how meaningful the information is when being intellectually processed. Since conceptual understanding is not vital, imagery formation may be no more advantageous than any other

processing mode.

Other factors may be operating as well, note that students whose processing and output modes differed, e.g., the low imagery encouragement and the high imagery discouragement groups performed better than those students who problem-solved using the suggested input modes (the high imagery encouragement and the low imagery discouragement groups). Perhaps students who had alternative problem-solving approaches available were better achievers than those who apparently had only one approach.

In summary, this study provides qualified evidence that imagery utilization may be effective for recalling science rules. Additionally, while some students are successful problem solvers regardless of the degree of imagery related instruction, there are still other students that find teacher imposed imagery to be quite advantageous. While the limitations of the study include the usual demographic considerations, the sample composition (all male) and size should be noted as additional factors that tend to restrict the generalizability of the results. Nevertheless the tentativeness of the findings should be noted and the suggested avenues of further research considered. Welch, et al (1981) believes that it is feasible and justifiable to match student learning experiences to their individual needs and styles. The investigation of imagery related learning experiences would seem to be consistent with this goal.

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## THE USE OF A TAPE RECORDER TO IMPROVE STUDENTS' WRITING SKILLS

Jane L. Buck

Inspired by the movement to teach writing across the curriculum (see Maimon, Belcher, Hearn, Nodine, & O'Connor, 1981), I have introduced a number of written exercises to classes which would ordinarily be assigned a traditional term paper or other term project. For the most part, these exercises are not assigned grades, although failure to complete a minimum number of the assignments results in the reduction of a student's final course grade. Students typically show a great deal of variability in both clarity of expression and mechanics, such as grammar, spelling, and punctuation.

Fulwiler (1982) suggests that students talk while writing as a means of generating and refining thought. Anecdotal evidence also suggests that many students who write poorly have little, if any, difficulty in communicating orally with great clarity. My own experience has led me to use the tape recorder with greater and greater frequency as a tool in fluent writing. It seemed reasonable to hypothesize that students would benefit from using a tape recorder as a writing instrument. Accordingly, as a pilot effort, I decided to compare the efforts of my educational psychology students when writing a classroom exercise in the traditional manner (pre-test) and when dictating into and transcribing from a tape recorder (post-test). As part of one day's activity, I requested that students define and give an example of negative reinforcement. I collected but did not return their papers, which were identified by name.

Approximately seven weeks later, as part of their introduction to the use of the modern language laboratory. I asked them once again to define and give an example of negative reinforcement, this time dictating their responses into a tape recorder, then transcribing exactly what they had recorded. Twenty students, 11 black females, 4 white females, 2 black males, and 3 white males, participated in both sessions.

Responses were typed anonymously with all spelling, grammatical, and punctuation errors intact and identification numbers assigned to the papers. Two colleagues from the English Department volunteered to score the responses on a scale of 1 to 10, with 10 representing the highest possible score on two dimensions, clarity and mechanics. They were instructed not



to consider correctness of the responses. Means of the scores assigned to a paper by the English instructors for each variable served as the student's score on that variable. A *t* test for correlated samples indicated that neither the mean gain of 0.30 points on the clarity variable nor the mean gain of -0.58 points on the mechanics variable was statistically significant. However, an *F* ratio performed on the variances for pre-and post-tests yielded results significant at the .05 level (*F* = 2.31, 19, 19) on the clarity dimension. The *F* ratio of 1.02 for mechanics was not significant. The fact that the variance on the pre-test, that is, the traditional condition, was 6.60 compared with 2.86 on the post-test or tape recorder condition suggests that, although the mean gain was too small to reach significance, the use of a tape recorder had reduced the variability in the students' ability to write clearly.

In an attempt to explain the phenomenon, I speculated that initial writing ability might interact with the treatment in such a way that good and poor students would benefit differently from using the tape recorder as a tool. Splitting the group at the medians on the pre-test for each variable (5.0 for clarity and 7.25 for mechanics), gain scores for the high and low groups thus obtained were analyzed by *t* tests for independent means. Pearson product-moment coefficients of correlation were calculated between pre-test and gain scores on both variables. Results are reported in Table 1.

Table 1  
Comparison of Gain Scores for High and Low Groups on Clarity and Mechanics

Gain Scores					
Group <sup>a</sup>	<u>M</u>	<u>SD</u>	<u>SD'</u>	<u>t</u>	<u>r</u> <sup>b</sup>
Clarity					
High	-1.35	1.62	2.61		
Low	1.95	2.15	4.64		
				-3.88**	-.77**
Mechanics					
High	-3.10	2.89	8.38		
Low	1.95	2.10	4.41		
				-4.47**	-.73**

<sup>a</sup>*n* = 10 for each group. <sup>b</sup>*r* between pre-test and gain scores.

\*\**p* < .01, *n* = 20.

The results obtained when the gain scores of the high group are compared with those of the low group are dramatic. While the high group lost 1.35 points on the clarity dimension, the low group gained 2.15 points or a difference of 3.30 points of a possible 10. Further, the correlation of -.77 between initial score and gain score is quite high, accounting for 59% of the

variance. Only two subjects in the high group displayed gains, and only one subject in the low group suffered a loss.

On the mechanics dimension, the results are similar. The upper group lost 3.10 points compared with the low group's gain of 1.95 points for a difference of 5.05 out of a possible 10 points. The correlation of -.73 between initial score and gain score accounts for 53% of the variance. As in the previous instance, two subjects in the upper group gained, while one subject in the lower group lost points.

The results can be explained in part by the probable operation of the phenomenon of regression towards the mean, as well as by a ceiling effect for the upper group. However, it is unlikely that such consistent trends were produced solely by the regression or ceiling effects. It is more plausible that the use of a new technique did, in fact, ameliorate poorer students' writing performance. It is difficult to explain, however, why better students suffered a diminution in performance. Perhaps already comfortable with a technique that worked for them, any deviation would serve to disturb them, while the opportunity to answer questions orally was a more comfortable and familiar modality for students with inferior writing skills.

The results of this study would suggest that students who already write well continue to use whatever methods are successful for them, while those with less well-developed skills might benefit by the use of a tape recorder.

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## Author Notes

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## THE RELATIVE EFFICACY OF IMAGERY VERSUS LECTURE METHOD IMPROVING TEACHER ATTITUDES TOWARD GIFTED STUDENTS\*

Christine I. Knotts and Warren A. Rhodes

Educating each child to the limits of his or her ability is a relatively new concept. As a result of the Soviet Union's launching of Sputnik in the late 1950's, the United States demonstrated concern for new technology and, consequently, for years, there were scattered and unorganized attempts made to identify and serve the academically gifted (Fox, 1981).

A report to Congress in 1971 by the Commissioner of Education sparked new interest in the identification of gifted and talented students. Four years later a Special Projects Act provided the first legislative effort for the gifted and talented. The following definition was revised and derived from the Special Projects Act:

"Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular program in order to realize their contribution to self and society" (Kirk and Gallagher, 1983).

The development of programs designed to meet the needs of the gifted student must be encouraged for many of our future leaders in government, medicine, creative arts, industry, philosophy and science are likely to come from the next group of gifted and talented children. According to the Council for Exceptional Children, at least 34 states offer programs for the gifted either through legislation or administrative policies. The failure or success of these programs is dependent upon the support of the teacher.

Teacher attitudes are important considerations for the identification and success of any educational program. In a classic study, Rosenthal and Jacobson (1968) dramatically demonstrated the effects of teacher attitudes on student performance. The study concluded that teacher expectancy most likely does influence student performance in class. Success or failure may be attributed to teacher expectations.

Negative or inaccurate perceptions can impede both the identification of gifted pupils and the implementation of provision to meet their needs. During an international conference in Montreal (Wojtas, 1981) it was noted that there was, on the part of the teachers, an overall negative attitude toward the gifted student. "Teachers frequently dislike gifted children,

\*This article is based on a thesis submitted to the Faculty of the Graduate School of Delaware State College in partial fulfillment of the requirement for the degree of Masters in Curriculum and Instruction, May 1984.



seeing them as troublemakers who could undermine their authority" (Page 7).

Because teacher attitudes can have tremendous impact on student performance and gifted students are a source of our future leaders, educators would find it in their best interest to identify effective strategies for the purpose of improving the negative attitudes that some teachers have toward gifted students. Various strategies and programs have been used to improve teacher attitudes. Direct contact (Levine, 1976), inservice workshops (Singleton, 1976) and sensitivity training (Walker and Williams, 1980) are only a few means by which educators and researchers have modified teacher attitudes. While these procedures have been very successful in promoting attitude changes in teachers, the lecture method has been widely used.

Several educators have found lecture to be a successful method in promoting attitude change. Through the use of the lecture method, Sperry (1972) was able to change teacher attitudes and help teachers establish better relations with their students. Lazar, Orpet, and Demos (1973) obtained similar results.

Nicely, Small and Furman (1980) conducted a study in which the lecture method was used to improve attitudes toward gifted students. These authors compared the degree of understanding about the gifted student to the willingness to support programs for the gifted. The result indicated that the more teachers know about gifted students and gifted programs, the more likely they are to be positive about student participation in gifted programs outside of the classroom.

As indicated from the research literature, the lecture method has some potential advantages in promoting positive teacher attitudes. When properly planned and executed, the lecture method may be an effective method for achieving certain types of attitude changes in teachers toward gifted and handicapped students.

While the imagery method has produced encouraging results in modifying attitudes toward the elderly (Cautela and Wisocki, 1969) and toward ones self (Calhoon, Krop and Verrier, 1971), it has been used more extensively as a major component in the treatment of a host of psychologically related problems, i.e. phobias (Abramovitz and Lazarus, 1962; Silber, 1965) depression (Lazarus, 1968) juvenile delinquency (Shapir, 1976) and homosexuality (Barlow and Brownell 1976; Cautela, 1971). As new methods emerge in the area of attitude change, further investigation is needed to discover whether these methods compare favorably to that of the lecture method in improving attitudes.

Rosenthal suggests that attitudes of teachers toward students can have very damaging effects on student performance. Unfortunately there is a prevailing negative attitude held by teachers toward the gifted student as reported by Wotajs. Research also has indicated that an imagery procedure

can be used to promote positive attitudes. The present study evaluates the relative effectiveness of a lecture procedure and an imagery procedure in promoting a positive attitude toward the gifted student.

## METHODOLOGY

### Design

Undergraduate students and graduate students were randomly assigned to three groups: Imagery Group, Lecture Group, and Control Group in a 3 x 2 factorial design.

The Imagery Group received one 10-minute session of imagery training each week for five weeks. A different imagery scene was used in these sessions each week. The Lecture Group received one 10-minute lecture each week for ten weeks. A different lecture on the subject of the gifted was presented each week. The Imagery Group, Lecture Group and Control Groups' attitudes toward the gifted student were measured one week before and one week after the experimental treatments.

### Subjects

Thirteen graduate students and thirty-three undergraduate students at the Delaware State College were used as subjects. The graduate students were regular classroom teachers enrolled in the graduate program at Delaware State College with a mean teaching experience of ten years. The undergraduates were currently in their junior or senior year and seventy-eight percent were education majors.

### Materials

A forty-item attitude questionnaire was used to measure the attitudes of each group toward the gifted. A five point rating scale was used where one denotes strongly disagree and five denotes strongly agree. Twenty items were directly related to attitudes toward the academically gifted student. The remaining twenty items were used to measure attitude toward other exceptionalities (handicapped, retarded, disadvantaged, and minorities). These items were designed to disguise the true purpose of the questionnaire, and a coding procedure, unknown to the subjects, was employed allowing for comparison of pre-treatment and post-treatment scores. Efforts were made to make the questionnaire unrelated to the experiment.

### Procedures

One week prior to the experimental treatment, some instructors at the Delaware State College were asked to assist in the administration of the attitude questionnaire. They presented the questionnaire to students in their classes and gave the following explanation:

The Education Department is conducting a study. We would like you to complete the following questionnaire. It will deal only with group results; no individuals will be identified. There will be no relationship or effect on your grade.



A week later, these same students were asked by a graduate student (confederate) to participate in an experiment that was designed to evaluate: (1) clarity of images (Imagery Group), and (2) clarity of lectures (Lecture Group).

#### **Imagery Group Instructions**

I am a graduate student interested in evaluating the clarity of taped images. I need for you to help me in this effort. The procedure will not be long but will require us to meet five times for 10 minutes each session.

I will dim the lights and ask you to relax and picture the taped images as clearly as possible. After the tape, I am requesting that you think of these images between sessions. Do you have any questions?

The graduate student then turned on a tape of one of the five images: (1) Explosion Mixture; (2) Major Artery Severed; (3) Principal's Observation; (4) Mainstreamed Student; and (5) Wax Fire. After each session the subjects were required to rate the degree of clarity of the image on a scale of one to five, where one indicates very unclear and five very clear.

The following are major points stressed in each taped image:

##### **Imagery Tape I - ( Explosion Mixture)**

Kenneth, a gifted student, prevents another student from creating an explosive mixture during a science class experiment. The science teacher is very appreciative for Kenneth's quick thinking and knowledge.

##### **Imagery Tape II - Major Artery Severed**

Jennifer, a gifted student, reacts quickly and expertly in applying pressure to the pressure point of another student who has cut herself badly on a major artery. The instructor was not in class during the time of the accident and was thankful for Jennifer's self-confidence and quick-thinking.

##### **Imagery Tape III - Principal's Observation**

A teacher has just finished an excellent lecture. The principal enters the classroom for his yearly observation. When he asks the students about the content of the lecture, no one speaks up except for the gifted student. The teacher is thankful for the gifted student's ability to grasp new knowledge and for his enthusiasm in sharing the lecture with the principal.

##### **Imagery Tape IV - Mainstreamed Student**

A mainstreamed student is in need of much individual help. The teacher is busy with reading groups and often asks William, a gifted student, to help the mainstreamed student. William is usually finished his work quickly and is always willing to help others.

##### **Imagery Tape V - Wax Fire**

The teacher is on a stepladder getting supplies from a high cabinet when a wax fire starts at the other end of the room. Janet, a gifted student, throws sand on the fire. Janet knew that water should not be thrown on oil fires.

The teacher is pleased to have a student with Janet's quick thinking and intellectual abilities.

#### **Lecture Group Instructions**

I am a graduate student interested in evaluating the clarity of lectures. I need for you to help me in this effort. The procedure will not be long but it will require that we meet five times for 10 minutes each session. I would appreciate your assistance.

The graduate student then turned on one of the five taped lectures: (1) "It's Dumb to be Smart"; (2) Major Ideas; (3) Underachieving Gifted; (4) Finding Gifted Children; and (5) Myths about the Gifted.

After each session the subjects were required to rate the degree of clarity of the lecture on a scale of one to five, where five was very clear and one was very unclear.

The following are the major points stressed in each taped lecture:

##### **Lecture Tape I - "It's Dumb to be Smart"**

A not-so-fictitious story about Jennie, a gifted student. Many of the problems that gifted students encounter are expressed in this story through Jennie. Her loss of friends, feeling different from others, and loneliness are among the most common problems that she encounters.

##### **Imagery Tape II - Major Ideas**

The following were the major points covered in this tape: (1) definition of the gifted; (2) identification of gifted students; (3) characteristics of the gifted; (4) equality and excellence for the gifted; (5) The gifted in the regular classroom; and (6) special subgroups of intellectually gifted.

##### **Lecture Tape III - Underachieving Gifted**

Causes related to the underachieving gifted students were covered in this taped lecture. Some of the reasons for underachieving are the inadequate programs, family conflicts, demands on the gifted, and teacher attitude.

##### **Lecture Tape IV - Finding Gifted Children**

There are many difficulties in finding and identifying gifted students. Some of the common problems are: low socio-economic backgrounds, verbal ability as a source of identification, different standards used for identifying the gifted, and inadequate testing tools.

##### **Lecture Tape V - Myths About the Gifted**

Several common myths were cleared in this taped lecture. Among the myths are: (1) The public is sympathetic to the plight of the gifted; (2) Special provisions for the gifted are undemocratic; (3) Gifted children can get a good education on their own; and (4) Gifted students do not have academic problems. If they did, then they wouldn't be gifted.

The Imagery Group and the Lecture Group received one 10-minute taped session each week for five weeks. One week after the fifth session, the Lecture Group, Imagery Group, and Control Group received the post-test attitudinal questionnaire.



## RESULTS

Twenty questions in the forty-item questionnaire were used to measure attitudes toward gifted students. Subjects could receive a total of five points for each question indicating the most positive attitude toward gifted students. A score of one point would indicate the least positive attitude toward the gifted students.

The pre-test of each subject was subtracted from their post-test score to obtain an attitude change score. In each group, attitude change scores of all subjects were added together to obtain a total attitude change score. The Total Attitude Change Score for each group is presented in Table I.

Table I  
TOTAL ATTITUDE CHANGE SCORE

Group	Overall Score
Imagery	+12
Lecture	+12
Control	-41

As indicated by Table I, the Imagery Group as a whole changed their attitude toward the gifted student by twelve points. That is, the Imagery subjects improved their attitude a total of twelve points from the pre-test to the post-test questionnaire. This increase was not significant as measured by analysis of variance.

The Lecture Group subjects also improved their attitudes from pre-test to post-test by twelve points. This increase was measured by analysis of variance and also found not to be significant.

The Control Group demonstrated a forty-one point decrease in attitude from pre-test to post-test. While this is a large decrease in attitude, the decrease was caused mainly by three subjects. Most (sixteen) subjects' attitudes in the Control Group remained stable. According to analysis of variance these differences in the Control Group from pre-test to post-test were not significant. The differences between the three groups were also not significant as measured by analysis of variance.

Thirteen graduates and thirty-three undergraduates participated in the experiment. Presented in Table II are the Graduate and Undergraduate Total Attitude Change Scores.

Table II  
GRADUATE AND UNDERGRADUATE TOTAL ATTITUDE CHANGE SCORE

Group	Graduates	Undergraduates
Imagery	+1	+11
Lecture	+10	+2
Control	-7	-34

The graduate subjects in the Imagery Group demonstrated an increase in total attitude change scores of one point. The undergraduate subjects in the Imagery Group demonstrated an increase in total attitude change score of eleven points. The difference between the graduates and undergraduates in the Imagery Group was not significant when measured by analysis of variance.

The graduate subjects in the Lecture Group demonstrated an increase in total attitude change score of ten points. The undergraduate subjects in the Lecture Group demonstrated an increase in total attitude change score of two points. The difference between graduates and undergraduates in the Lecture Group was not significant when measured by analysis of variance.

The graduate subjects in the Control Group demonstrated a decrease in total attitude change score of seven points. The undergraduate subjects in the Control Group demonstrated a decrease in total attitude change score of thirty-four points. This large decrease was not significant as measured by analysis of variance.

Five of the forty questions in the attitude questionnaire were used to measure attitudes toward the handicapped students.

Table III  
TOTAL ATTITUDE CHANGE TOWARD HANDICAPPED STUDENTS

Group	Graduates	Undergraduates	Overall
Imagery	-3	-6	-9
Lecture	-1	-13	-14
Control	-5	+3	-2

As indicated by Table III, Graduates in the Imagery Group decreased three points in the total attitude score from the pre-test to the post-test. The undergraduates in the Imagery Group decreased six points in the total attitude change score. The overall score for the Imagery Group was a decrease of nine points in the total attitude change score.

Graduates in the Lecture Group decreased one point in the total attitude change score. The undergraduates decreased thirteen points. The overall Lecture Group score was a decrease of fourteen points in the total attitude change score.

Graduates in the Control Group decreased five points. The undergraduates increased three points. For the Control Group, the overall total attitude change score was a decrease of two points.

Results of Table III were measured by analysis of variance and they were not significant.



Five of the forty questions in the questionnaire were used to measure attitudes toward the retarded students. Table IV shows the Total Attitude Change Score toward the Retarded Students.

**Table IV**  
**TOTAL ATTITUDE CHANGE SCORE TOWARD RETARDED STUDENTS**

Group	Graduates	Undergraduates	Overall
Imagery	-4	-21	-25
Lecture	-5	-6	-11
Control	-2	-4	-6

As indicated by Table IV, Graduates in the Imagery Group decreased four points in the total attitude change score from the pre-test to the post-test. The undergraduates in the Imagery Group showed a decrease of twenty-five points.

Graduates in the Lecture Group decreased five points in the total attitude change score. The scores for the undergraduates decreased six points. The overall score for the Lecture Group was a decrease of eleven points.

The scores for graduates in the Control Group decreased two points in the total attitude change while the scores for the undergraduates decreased four points. For the Control Group the overall total attitude change score showed a decrease of two points.

Results of Table IV were analyzed by analysis of variance, and they were not significant.

## DISCUSSION

Certain research has indicated that the imagery method and the lecture method could be useful methods to improve attitudes toward the gifted. The result of the present study indicated that while both methods showed improvement in attitude change, the improvement was not significant in either group. Also, there was no difference in the improvement shown by the lecture method and that of the imagery method. In fact, they proved to be the same.

There are several possible reasons why the imagery method did not induce significant attitude change toward the gifted students in the present study.

1. Exposure to images may not have been powerful enough to produce these changes. There were a total of 5 three-minute audio-taped imagery scenes. Subjects heard each tape only one time. Hearing each tape only once may not have been enough to change attitudes that

were developed over a period of years. While Cautela reports increase in attitude toward the elderly as a result of brief exposure to imagery scenes, the results in the present study do not appear to support brief exposure to imagery as a method in improving attitudes toward the gifted.

2. In Cautela's experiment which demonstrated improved attitudes toward the elderly, the subjects were exposed to an experimenter who actually read the scene. In the present study, audio tapes were used to avoid experimental bias. This non-personal procedure may have lessened the effect of imagery in improving attitude change.
3. While the scenes tried to present the gifted student in a positive light, i.e., being helpful in several emergency situations, these conditions may not have been powerful enough to produce positive change.

There are several possible reasons why the lecture method did not induce significant attitude change toward the gifted students in this study.

1. Exposure to lectures may not have been powerful enough to produce such changes. Subjects heard an audio tape of 5 three-minute lectures only one time each.
2. Audio tapes were used to avoid experimental bias, however, this non-personal procedure may have diminished the effect of the lecture.
3. Certain research states that effective lectures should incorporate questions. In an attempt to systematically expose subjects solely to imagery scenes and lecture presentations, subjects were not allowed an opportunity to ask questions in either group. This may have minimized the effect of the lecture.
4. Effective lectures should incorporate visual aids. This was not possible with a taped lecture, therefore minimizing the effect of the lecture.

When conducting research, it is discouraging to receive data which is inconsistent with existing research such as was the case in this experiment. For example, the existing literature supports imagery and lecture as effective methods in improving attitudes. However, one can gain knowledge from discouraging or negative results as found in the present study.

From this study perhaps one can understand the parameters governing the effectiveness of imagery and lecture methods in producing positive attitude change. It seems reasonable, then, that an audio tape could be a substitute for personal presentations, however a caution is warranted. Time of exposure is also crucial in effective lecture and imagery procedures. Feedback from the subjects would also have an impact on effect.

Further research is needed to clarify better the variables that are significant in affecting positive attitude change by the imagery method or the lecture methods.



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## EVALUATING ETHICAL DECISIONS IN THE SCIENCES

Dana L. Zeidler

The interdisciplinary nature of science has revealed itself to educators in recent years without candidness, modesty or subtlety. Advances in technology have imposed brute facts of reality upon society, and subsequently upon science educators. Science can no longer be taught in a vacuum; as a discipline with its unique methodologies and content confined within the walls of our classrooms and laboratories. Public consciousness now demands, and rightfully so, that it better understand the ramifications of the activity of science. And science educators now have a prima facie duty to respond to the cry of public awareness by helping to prepare both the non-science major and the science student with the experience necessary to become informed decision makers with respect to science and social policy (Zeidler, 1984). The notion of combining science and social issues dates back in American science education to Dewey's push for progressive education (1974, 1977). But the response to answer the call for a progressive, interdisciplinary approach has been sluggishly awakened from its dormancy and only seriously considered in recent years (Champagne and Klopfer, 1982; Jacobson, 1982; Kale and Yager, 1981).

The purpose of this paper is to present a viable approach which educators in the natural or social sciences may use in presenting the idea of competing choices with respect to ethical issues in science, and an overview of the problems encountered in applying ethical theory to social problems. There are, however, some considerations which should be brought to light before we can adequately proceed. While most students and many science teachers have had limited experiences or training in ethical theory, it is the principles of ethics that guide individuals and groups in making moral decisions concerning social policy. For practical reasons of classroom implementation the area of metaethics, which is concerned with the epistemological and logical nature of ethical terms and moral conduct will not be discussed. Rather, our attention will focus on the field of normative ethics in which general principles provide us with framework for decision-making policy. A fundamental principle that underlies normative ethics and is particularly amenable to issues that affect the sciences and social policy because of the prescriptive value it has is the principle of utility.

The principle of utilitarianism, in general, holds that an action is morally right if it produces at least as great a balance of value over disvalue as an available alternative action (or rule). The nature of the value (which is the utility of central importance) may vary according to one of three common positions: 1) Eudaimonistic utilitarianism (happiness; e.g., John Stuart Mill), 2) Hedonistic utilitarianism (pleasure; e.g., Jeremy Bentham) or 3) Agathistic utilitarianism (good; e.g., G.E. Moore). In any case, the act that is



found to maximize value and minimize disvalue is considered the morally correct act to forego, and the agents own interest are to be considered equally with those interests that belong to any other individual. Subsequently, a certain sense of impartiality is required in calculating the consequences of any particular act.

Indeed, the difficulty in applying the principles of utilitarianism arise not when a clear choice of action is present but when the choices are many and the consequences vary in degree. Teachers may present this kind of a dilemma to their students by illustrating it with a probability matrix. Those with a background in the biological sciences will quickly recognize this as a Punnet square:

Let X represent one course of action, and Y represent a mutually exclusive alternative course of action. Let the possible consequences of either action be represented by theoretical units of value or social good:

- 1 - all value, no disvalue
- 2 - mostly value, some disvalue
- 3 - equal value and disvalue
- 4 - some value, mostly disvalue
- 5 - no value, all disvalue

We now can construct the following probability distribution:

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
Y <sub>1</sub>	+	Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>
Y <sub>2</sub>	X <sub>1</sub>	+	Y <sub>2</sub>	Y <sub>2</sub>	Y <sub>2</sub>
Y <sub>3</sub>	X <sub>1</sub>	X <sub>2</sub>	?	Y <sub>3</sub>	Y <sub>3</sub>
Y <sub>4</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	-	Y <sub>4</sub>
Y <sub>5</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	-

Figure 1

As a first step in presenting the notion of competing choices to students in a concrete manner this technique may help them to come to grips with the situation (dilemma) at hand. Of course, it is clear where the action X or Y are the necessary actions to be chosen by any rational, reflective being. The difficulty arises along the diagonal of the matrix that runs from the upper

right to the lower left sides. It would appear that either actions X<sup>1</sup> or Y<sup>1</sup>, for example, could be justified as being "morally right" because either choice yields similar degrees of value or disvalue. The same could be said of actions X<sup>2</sup> vs. Y<sup>2</sup>, X<sup>4</sup> vs. Y<sup>4</sup>, and X<sup>5</sup> vs. Y<sup>5</sup> (the matter of X<sup>3</sup> vs. Y<sup>3</sup> will be discussed later).

As a second step, in an effort to evaluate more precisely the choices that are available to us along the diagonal axis so we may better reach a decision concerning a particular course of action, it would be very useful to students if they could learn to differentiate between **long** and **short** term consequences. Careful assessment of available resources and information, and perhaps some guidance from the teacher would achieve this and further define the dilemma. For example, using the same key from above, but in addition, being able to attach short and long term dimensions to our actions, X will come to represent short term consequences and Y represent long term consequences. Slightly different choices of action are now imposed by the matrix (biology teachers may do well to envision this modification along the lines of X and Y-linked genes):

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>	Y <sub>1</sub>
Y <sub>2</sub>	X <sub>1</sub>	Y <sub>2</sub>	Y <sub>2</sub>	Y <sub>2</sub>	Y <sub>2</sub>
Y <sub>3</sub>	X <sub>1</sub>	X <sub>2</sub>	?	Y <sub>3</sub>	Y <sub>3</sub>
Y <sub>4</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	Y <sub>4</sub>
Y <sub>5</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>

Figure 2

In this example, decisions are based upon the assumption that the total long term value offsets any long term disvalue, as are in the cases of X<sup>2</sup> vs. Y<sup>2</sup> or X<sup>4</sup> vs. Y<sup>4</sup>. Other arguments might be made for other alternatives as well. We might, for example, consider choosing Y<sup>2</sup> over X<sup>1</sup> if we could demonstrate that the long term benefits of value in Y<sup>2</sup> might be offset by any long term disvalue, and that the total good of Y<sup>2</sup> would be greater (in quantity or duration) than that of X<sup>1</sup>.

There remains, however, an ethical thorn in the heart of conscience when



we are confronted with the center of the matrix. Situations in which actions  $X^3$  vs.  $Y^3$  are not uncommon in society. Consider for a moment, the field of medicine, in which the allocation of scarce medical resources (e.g.: specialized practitioners, artificial and donor organs, transplantation, transfusions, exploratory research) shifts from an economic dimension to an ethical world. Such dilemmas may include the problems of macroallocation or microallocation, and questions of distributive justice. For example, if a doctor is faced with the decision of how to distribute a limited amount of drug Z to a number of individuals who in total, will require more of the drug than is available, how is the doctor to determine the overall utility of one action over another? Is there not something unsettling in maintaining that either action ( $X^3$  or  $Y^3$ ) is the good choice, the morally correct action? Quite often, when students are confronted with such a situation, they attempt to resolve which competing action to choose by suggesting recourse to some random selection procedure by which the value can be equitably distributed. That may seem fair to some but to suggest which action **ought** to be performed by flipping a coin when lives are at stake lies in a morally untenable realm.

In the last scenario it is evident that a monistic system such as strict utilitarianism may not always suffice in and of itself. Teachers and students find that at times, utilitarianism fails to arrive at an adequate or complete theory of normative ethics. An alternative approach in evaluating a dilemma from which students may derive policy decisions is one that is rooted in ethical pluralism and may be found in the work of John Rawls (1971). Rawls appears to blend utilitarianism with deontology, which is another branch of normative ethical theory. Deontology attempts to resolve competing actions by defining the principles or rules upon which an individual acts, rather than net value over disvalue. Rawls' approach is a viable one, particularly in situations involving questions of distributive justice with respect to competing societal claims. It differs from strict utilitarianism in that we no longer choose the course of action that brings about the greatest amount of value for a particular group; rather, we choose a course of action that is consistent with fundamental principles of justice and distributes benefits and burdens to **all** concerned groups in a way that maximizes the total good (value) of all the groups. Rawls provides a thorough analysis of a conception of justice which leads to the formulation of the following principles:

#### First Principle

Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all.

#### Second Principle

Social and economic inequalities are to be arranged so that they are both:

- (a) to the greatest benefit of the least advantaged, consistent with the just savings principle, and
- (b) attached to offices and positions open to all under conditions of fair equality of opportunity.

#### First Priority Rule (The Priority of Liberty)

The principles of justice are to be ranked in lexical order and therefore liberty can be restricted only for the sake of liberty. There are two cases:

- (a) a less extensive liberty must strengthen the total system of liberty shared by all;
- (b) a less than equal liberty must be acceptable to those with the lesser liberty.

#### Second Priority Rule (The Priority of Justice over Efficiency and Welfare)

The second principle of justice is lexically prior to the principle of efficiency and to that of maximizing the sum advantages; and fair opportunity is prior to the difference principle. There are two cases:

- (a) an inequality of opportunity must enhance the opportunities of those with the lesser opportunity;
- (b) an excessive rate of saving must on balance mitigate the burden of those bearing this hardship (1971, 302-303).

It is interesting to note the duality in the logic of Rawls' approach. On one hand, the deontological system of an arrangement of principles and rules assures that all groups involved are entitled to basic liberties and are in an original position; viz., each group may know the probable outcome of a decision but may not know their **own** outcome and are therefore not in a position to gain advantage over another group. On the other hand, the principle of utility assures that the greatest amount of value for **all** of the groups involved is obtained, and not simply the greatest amount of good for one specific group. Students will no doubt find the notion of distributing goods (value) unequally as being fair, a novel situation; but again, they also must understand that such a situation is only fair if an unequal distribution of the goods favors the least advantaged group and benefits the entire system as a whole. Using Rawls approach would appear to provide students with better guidelines for choosing a certain course of action in figure two. They must now mitigate any disvalue of long or short term consequences in a way that is consistent with the above principles of justice while attempting to distribute any long or short term value to the greatest number of groups (or individuals).

Rawls principles of justice represent a framework on which we can begin to construct policy decisions. There remains the questions of determining how the relative theoretical units of value or social good



actually translate or impact on various groups. But by helping students to apply the traditional principles of utilitarianism and the pluralistic approach of Rawls, which combines utilitarianism with deontology to ethical problems, science educators will be providing them with a fruitful, functional approach to decision making at the junction where ethics and science meet.

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#### GUNBOAT DIPLOMACY THEN AND NOW

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In recent months the American news media has chronicled the revival of a form of strategic force projection that had previously been considered obsolete and out of place in the modern world, the practice of "gunboat diplomacy." The use of naval firepower and amphibious landing forces to intervene in the affairs of minor powers without declarations of war had been a feature of statecraft closely associated with the era of colonialism and imperialism. As such, it was thought that gunboat diplomacy was sufficiently discredited to render it unthinkable and unproductive as an instrument of policy. In the final analysis, this expectation may prove to be true after all. Meanwhile, there is no mistaking that a new variant of it has emerged and that the United States is vigorously practicing it.

Gunboat diplomacy has been a feature of American foreign policy since the earliest days of the Republic. Our forefathers had learned of its potentialities from the experience of their colonial forebears who had lived on the rim of the North American Continent in constant fear of the sudden and often treacherous appearance of powerful naval squadrons sent out by the various European maritime nations for the purpose of altering the status quo by the dramatic application of overwhelming force. In one period, from 1651 to 1674, the settlements on the Delaware River changed hands no less than six times as Dutch, Swedish and English battlefleets arrived to upset the balance of power and deliver the land into the power of their respective nations. Benjamin Franklin and his followers finally broke the power of the Quakers over the province of Pennsylvania at least partly because the Friends would not undertake the erection of fortifications designed to resist seaborne intervention.<sup>1</sup> Colonial Philadelphia's fear of interventionist battlefleets was the common experience of every city from Charleston to Portsmouth and could still surface as an active phobia as late as the Spanish American War.

Thus were colonial Americans first made aware of the power and potential of gunboat diplomacy, a lesson which sovereign republican Americans applied constantly throughout the nineteenth century. Officers of the Continental and Federal navies were often entrusted with diplomatic missions including the power to negotiate treaties and administer retribution for offences against the flag. A partial list of diplomatic missions undertaken by naval officers would include John Paul Jones' negotiations in France and Holland, almost continual chastisement of the Barbary States from 1783 to 1805 and again in 1816, the conduct of American relations with Turkey from 1784 to 1832, early relations with Imperial China, the opening of Japan, the earliest contacts with Korea and countless dealings with the tribal kingdoms of Africa and the Pacific Islands.<sup>2</sup>



The Navy and its commodores were the chosen instruments of diplomacy in these instances because the recipient principalities were considered to be poorly understood and decidedly inferior to the more settled nations of Christendom which rated, by virtue of their superior culture, the services of regularly accredited diplomats. A naval commodore united in his person the twin roles of warrior and negotiator. He understood protocol, the importance of symbolic gestures and personal dignity, and the timely application of armed force and its capabilities. He could press American claims, look out for American interests, and "administer justice" with the means at his disposal, his ship's guns and his Marine landing force.<sup>3</sup>

As practiced in the nineteenth and early twentieth centuries, American gunboat diplomacy had one outstanding feature, its *ad hoc* nature. Naval officers sailed on their missions armed with orders emanating directly from the President and transmitted through the Secretary of the Navy. Involvement on the part of the State Department was optional. Their tasks were usually clearly defined, relating to a specific act or problem, and the mission terminated when specific redress, agreements, or retribution had been exacted. Extensive follow-up efforts and long term monitoring of the results of a specific negotiation was not a feature of gunboat diplomacy.

Of course, as practitioners of gunboat diplomacy, Americans were not alone. Virtually all of the European powers that possessed navies and colonies made liberal use of seaborne landing parties in combination with shore bombardment, or the threat of it, to enforce their will on subjects or other "inferiors." What was singular about American gunboat policy was that it grew up in the absence of overseas colonies or subjects that had to be policed. It was invariably intended to protect the lives and property of American trading abroad, merchant mariners, commercial agents and perhaps an occasional missionary.

The function of providing this gunboat protection was something the Navy took seriously. Usually ships of the regular deepwater fleet were pressed into this role, but in 1867 two vessels, the **Ashuelot** and **Monocacy** were sent to Asiatic waters specifically designated as "gunboats" and designed and armed for that function exclusively. Capable of only limited sea passages and ideally suited for inshore and riverine work, this pair of vessels undertook countless missions, some obscure and some quite strenuous, which served to define for the next three-quarters of a century the classic role of the American gunboat on station.<sup>4</sup>

As the nineteenth century drew to a close, the Navy took a scholarly interest in developing a gunboat doctrine. Alfred Thayer Mahan taught that the protection of commerce was a primary function of naval power and his writings constantly emphasized the usefulness of transporting armed expeditionary forces to points where they could, on coming ashore, significantly alter the local balance of power. Mahan's principles were actually implemented by Commodore Robert W. Shufeldt who, in his

capacity as naval attaché to the United States' mission in Peking, negotiated a treaty with Korea that effectively opened its territory to American trade and commerce after a strenuous armed campaign under the direction of Rear Admiral John Rodgers had utterly destroyed coastal and river fortifications guarding Seoul. Later in his career, Shufeldt served as President of the Naval Advisory Board and as a staff officer at the Naval War College where he became the foremost proponent of the Navy's gunboats. In his teaching and writing he constantly stressed the usefulness of armed naval expeditions in expanding and protecting American commerce and policing unstable and dangerous maritime trade routes.<sup>5</sup>

By the beginning of the twentieth century American gunboat diplomacy had come to center in two areas, the great rivers of China and the Caribbean Basin. In China the two original gunboats had been replaced by a small fleet of vessels captured from Spain in 1898 and some others built in 1920, which operated under the provisions of treaties negotiated under duress between the Imperial Government and the Western Powers. In 1927 the worn out ex-Spanish boats were replaced by craft constructed for the United States Navy in various Chinese dockyards which remained on station until 1941. In the Caribbean gunboat functions were normally discharged by regular fleet ships operating under the auspices of the Roosevelt Corollary of the Monroe Doctrine. Between 1898 and 1941 there were innumerable "interventions" in Central America which took the form of occupations, seizure of customs houses, and even the full scale bombardment of the Mexican City of Vera Cruz by battleships of the Atlantic Fleet<sup>7</sup>. President Franklin D. Roosevelt pledged to end the practice of gunboat diplomacy in the Caribbean as part of his "Good Neighbor Policy," but in 1937 the Navy commissioned two new large gunboats, the **Charleston** and **Erie**, which were specifically designed for Central American operations.

The outbreak of World War II put a definitive end to the era of naval gunboats and to gunboat diplomacy as a regular and routine instrument of American foreign policy. Gunboats are of little use in hostilities involving major naval powers and nearly all of the American examples of the type were war casualties. In the postwar years the Navy defined its mission almost entirely in terms of sea control utilizing a carrier based battlefleet, submarines, and anti-submarine forces. Even the amphibious force was conceived of as being primarily a large scale attack force to be directed against a great power rival.

Social and political forces also militated against gunboat diplomacy. Over a hundred new sovereign nations came into existence affirming the power of nationalism over racism, economic exploitation and interventionism. In this effort the new, and largely ex-colonial, nations had a powerful forum from which they could enunciate their position and direct the harsh glare of world opinion against any obvious symbol of the old imperialist regime. After some bitter experiences in trying to shore up their crumbling empires, the European navies gradually abandoned the practice



United States intervened. Only two of the interventions were carried out under the auspices of the U.N. and approximately half of them were legal according to the principles of the charter. The tendency towards "illegal" interventions has become more pronounced since 1970. Indeed, if the Grenada intervention is declared illegal, and it was overwhelmingly condemned by the General Assembly, it will be the third United States action in a row to be so designated.<sup>15</sup>

No discussion of American interventionism would be complete without some assessment of a phenomenon that is unique to the postwar world, namely the rise of "revolutionary" nation states. Among the mass of countries that have come into existence with the demise of colonialism have been a handful that have adopted a revolutionary posture on either a local or global scale. North Korea is, in some ways, the prototypical example followed by North Vietnam, Algeria, Cuba, Libya, Syria and Iran. What characterizes these countries is that they are all Third World states. They do not have a clear "satellite" relationship with the Soviet Union or China. They are heavily armed in relationship to their levels of economic development and they are implacable self-appointed enemies of the United States determined to oppose and frustrate our policies to the best of their abilities.<sup>16</sup> Their **modus operandi** includes both sustained diplomatic offensives and specific actions, often violent, against American civilian, diplomatic, or military assets and personnel, or those of states dependent on us.

In dealing with such states, American policy makers have found that normal diplomatic channels are largely ineffective unless backed up by powerful military assets such as aircraft carrier battle groups, amphibious landing forces and occasionally a battleship in the offing. Consequently, in dealing with the revolutionary states, interventionism or the threat of it has once more become a regular tool of diplomacy giving rise to what the news media characterizes as a return to "battleship diplomacy." In the course of this revival it has been discovered that the large deck aircraft carrier is a weapon of enormous potential and flexibility, able to project significant power into any area accessible from the sea. Indeed, one or two carrier air groups have the capacity to rout the entire air force of any of the revolutionary states thanks to the sophistication of their planes and the advanced state of training of the pilots.

Disturbing as they are to the practice of American diplomacy, the rise of the revolutionary states is not the only new factor that has come out of the recent era of nation building. Some of the newest countries to emerge take the form of "micro-states" or "mini-states." These are states, often constituted from an island or an archipelago of islands, extremely small in terms of land area and population, but invested with the full sovereignty customarily accorded to nations and possessing full voting membership in the United Nations. Such states are effectively powerless in the international arena and can be taken over or destabilized with ease by a major power or even one of the revolutionary states if sufficient motivation

exists.<sup>17</sup>

Taking control of an island micro-state can offer many attractive advantages. Some are situated adjacent to vital strategic land and sea areas. Air and naval operating bases in such places can be invaluable both for protection of vital interests and for power projection into areas where one's presence has become necessary or advantageous. A subject micro-state can also be used for a wide variety of lesser but still meaningful functions such as the basing of intelligence operatives, the subversion of neighboring states, the caching of weapons and supplies and the banking and "laundering" of funds earmarked for clandestine operations. At the very least, control of a micro-state can mean having an assured supporting vote in the General Assembly safely tucked in the pocket of the dominant nation.<sup>18</sup>

When faced with a situation of this character involving Grenada, the United Nations proved to be woefully lacking in mechanisms that would have allowed it to halt a takeover by Cuban-sponsored rebels. There was, specifically, no effective international protectorate that could be extended to the island or its people nor any concrete legal procedure to create an agency or authority that could look out for the interests of threatened micro-states.<sup>19</sup> The United Nations is simply too wedded to the idea of the equality of all states and the concept of "one state, one vote" to recognize the particular problems of micro-states and take steps to offset them.

Consequently, the United States determined to take action utilizing a combination of gunboat and troop carrier diplomacy modeled after the British intervention in the Leeward Islands in 1969. A legal basis for the action which commenced on October 24, 1983 was founded on the premise that the Organization of Eastern Caribbean States, which included Grenada and is composed entirely of micro-states, were bound by a formal treaty dating to 1981 which allows them to take collective action and/or call on friendly states for assistance in dealing with local or external threats to peace and security.<sup>20</sup> This treaty was invoked from within Grenada by a secret communication addressed to OECS by the Governor General, Sir Paul Scoon. OECS, in turn, called upon the United States and Jamaica to assist with the intervention as "friendly states." The United States has further buttressed its legal position by citing the charters of the United Nations and the Organization of American States which both recognize the competence of regional security bodies in ensuring regional peace and stability. Article 22 of the OAS Charter clearly states that "action pursuant to a special security treaty in force does not constitute intervention or use of force otherwise prohibited by articles...of that charter."<sup>21</sup>

As micro-states continue to proliferate and to be admitted into the United Nations without regard to their size in terms of land area and population, it can be assumed that they will increasingly become targets for subversion. Unless and until the U.N. makes the necessary provisions for their safety, their only defense will be their regional security treaties and the intervention of a major power. Far from being a revival of old style "gunboat" diplomacy,



Grenada may be the harbinger of a new category of interventionism created by unprecedented circumstances relevant to the present era of nation building.

What this means is that we have to rethink the problem of gunboat diplomacy or, more accurately, troop carrier interventionism in the light of a new international regime which features superpower confrontation by proxies, revolutionary states not amenable to normal diplomacy, and vulnerable micro-states. The revulsion against intervention as a symbol and methodology of the discredited colonialist past still has great currency as symbolized by the near unanimous vote in the General Assembly to condemn the American action in Grenada. Unfortunately, this revulsion may no longer be realistic.

If, indeed, the practice of interventionism is to make a reappearance on the international stage, it might be interesting to examine how it relates to the two dominant schools of thought that influence America's approach to international politics, namely the realist philosophy and the complex interdependence theory. Hans J. Morgenthau, the most prominent proponent among the realists, constantly stressed the centrality of power and power relationships among nations as a determinant of policy. He taught that nations constantly maneuver to either gain, retain, or display their power and that displays of armed force are one of the most effective means by which this is done.<sup>22</sup> Power is used to either upset or preserve existing power relationships and national policy is determined by policy makers' attitude towards those power relationships. A policy that seeks to alter power relationships in favor of the initiating nation is deemed an imperialistic policy and one that seeks to maintain an existing balance of power or power relationships is a status quo policy.<sup>23</sup> The acceptance of this series of definitions would allow an observer to categorize virtually any intervention in terms of the purpose and goal of the intervenor.

Morgenthau did not, however, explicitly sanction intervention as a regular tool of policy. Indeed, he emphasized that it was the duty of all states under international law to refrain from interventions so as to establish respect for the sovereignty and independence of nations which he regards as a fundamental right and a cornerstone of the international system.<sup>24</sup>

Consequently, the meaning of Morgenthau's teachings with regard to the practice of interventionism can be debated. He seems to create a frame of reference in which interventions are a practical element of policy for either extending or protecting established power relationships through display of military force and/or taking advantage of a favorable balance of power enjoyed by the intervenor over the "target" state. Then he states that intervention violates the principles of sovereignty and equality among states and affirms that all nations have a duty to support these principles under international law. He consistently preaches the primacy of considerations of national interest over considerations of a "legalistic" or "moralistic" nature in shaping and determining policy, but he refuses to

discuss the practice of armed intervention explicitly, touching on it only to define a very limited circumstance whereby it is permissible if the target nation has signed a formal treaty granting permission for another state to intervene in its affairs under stipulated and enumerated circumstances.<sup>25</sup>

Stanley Hoffman, perhaps the most prominent spokesman for the complex interdependence school, renders interventionism in what may actually be a more sympathetic light than Morgenthau does. Complex interdependence stresses the need to promote spontaneous voluntary cooperation among the nations of the world based on the assumption that no power is truly self-sufficient and that much more is to be gained from working together to promote mutual advantages and secure mutual benefits than can be achieved by the great powers simply establishing primacy over the states in their respective spheres of influence.<sup>26</sup> Yet Hoffman is prepared to deal with intervention as a specific policy and even to assign a role for it in the practice of statecraft. Under what he calls "the Rule of Noncollision," Hoffman states that the United States must refrain from interventions in the affairs of others aimed at overthrowing their governments or "thwarting the free exercise of popular suffrage." Such interventions are not only "morally repugnant," but the results are unpredictable and not amenable to effective control. Even when the client state "behaves nicely," the United States often ends up being perceived as "...the chief villain in the eyes of the domestic opposition and of many other nations...."<sup>27</sup>

Still, there is a place for intervention. There are circumstances wherein a new local regime may open up "avenues of strategic and political control to our chief rival." To prevent this from happening, the United States might find it necessary to intervene even though to do so would run the risk of supporting corrupt and dictatorial governments, becoming entangled in an "unending quest for unachievable control" and having sensitive covert maneuverings uncovered and publicized.<sup>28</sup> Hoffman states that there are probably only a very few instances where intervention to thwart an extension of Soviet or Cuban strategic or political control would actually be worthwhile given the risks involved, but it is clear that he would like to keep the option open.

Neither Hoffman nor Morgenthau makes any mention of the practice of "humanitarian" intervention, that is, intervention to protect the lives and property of the intervenor's citizens in the target state. This form of intervention is one of the oldest and best defined in terms of justifications and governing principles. It is also one of the most commonly cited reasons for engaging in armed and amphibious expeditions of the sort that characterize traditional gunboat diplomacy. Perhaps the reason for this is that so many intervenors have cited humanitarian grounds to justify their actions that it has become effectively discredited and is no longer convincing enough to be seriously discussed. Nations that do claim



humanitarian grounds for intervention almost always accomplish other goals as well so that it becomes impossible to establish the primacy of the human motive among all the others that surface after an intervention becomes an accomplished fact.

Another fact left unexamined by Hoffman and Morgenthau is the idea that interventionism and gunboat diplomacy are the exclusive practices of imperialistic and capitalistic states. The Soviet Union has been a constant and vociferous critic of all manifestations of interventionism on the part of capitalistic nations, a circumstance that hides the fact that they are showing an increasing tendency to adopt the practice themselves. In describing the role of the Soviet Navy upon the oceans of the World, Admiral Sergi Gorshkov has declared that:

Ships of the Soviet Navy are systematically present in the ocean, including the areas of the presence of shock navies (i.e. naval strike forces) of NATO. The presence of our ships in these areas bind the hands of the imperialists, deprives them of a possibility to interfere unhindered into internal affairs of the people.<sup>29</sup>

Nonwithstanding this blunt warning, Soviet warships have not been effective in preventing an armed intervention by any western state.

The record of Soviet intervention since World War II is summarized in table II which is derived from a master table compiled by Tillema and Van Wingen:

**TABLE II**  
**Interventions by the Soviet Union Since the Signing**  
**of the United States Charter**

Target	Date	Circumstances	Independent target state	Legal	Military Obligation
E. Germany	6/19/53	East Berlin riots	no	yes	yes
Poland	10/20/56	Quell demonstrations	yes	no	yes
Hungary	10/23/56	Suppress popular movement	yes	yes	yes
Czech.	8/20/68	Allied socialist invasion	yes	yes	yes
China	8/15/69	Border conflict	yes	no	yes
China	5/09/78	Troops cross border	yes	no	no
Afghanistan	12/27/79	Counterinsurgency	yes	no	yes

Perhaps like some authorities that have dealt with the problem of interventionism from the Western capitalistic perspective, they also see an increasingly significant role for mobile amphibious landing forces and other power projection apparatus to play in the near future.

If, indeed, present trends continue, we can expect the two superpowers to become increasingly willing to use the interventionist option and also increasingly willing to discard considerations of morality and legality while doing so. In our contemporary bi-polar setting this probably means that the forces of one superpower will be confronting the proxies of the other. In

fact, if care is not taken, the superpowers may find their respective forces in direct collision. Lebanon, which has been a recurrent source of discord and interventions during the last few years, is the most obvious setting where this could happen. The Persian Gulf states, and particularly Iran, is another. Should American troops encounter Soviet troops in an interventionist setting, that is while both superpowers are encroaching on a smaller Third World state, a terrible new dimension will be added to the game. It is a tradition of gunboat diplomacy that great powers do not use it on each other. Unfortunately, as the conflicts between the great powers' proxies become deeper and more intense, it becomes harder for either the Soviets or the Americans to allow a client to suffer a major defeat after they have been heavily armed and intensively advised. The temptation to intervene and save a floundering client becomes stronger and the risk of another superpower being drawn into an intervention correspondingly greater.<sup>32</sup>

Finally, there is the cost to be reckoned. Modern gunboat diplomacy is no longer a matter of small and inexpensive vessels and company strength detachments of Marines. The aircraft carrier has clearly emerged as the "gunboat" of the 'eighties after decades of being regarded mainly as a battlefleet weapon. Large deck carriers are inordinately expensive and so are their planes and supporting facilities, which include a massive fleet train. Given the norman situation whereby only a third are on a station at any one time while the rest undergo repairs and training, how many are enough? How many more must we build in order to adequately cover all of the sites where we might conceivable stage an intervention, the Persian Gulf, the Libyan Coast, the Eastern Mediterranean, both coasts of Central America and Korea being prime candidates as of this writing. In attempting to build enough aircraft carriers, recommission old battleships, position and stockpile rapid deployment forces and provide a fleet train and amphibious landing ships, we will find ourselves running up enormous costs which will in themselves constitute a significant penalty on our system even if every future intervention is an unqualified military success.

Finally, we must ask ourselves how effective our new gunboat diplomacy is likely to be in the long run. The intervention in Granada and recent confrontations with Libya in the Gulf of Sidra have shown that Third World revolutionary states respond very favorably to a show of force. The "quick fix" thus provided can be very gratifying and politically rewarding to the perpetrating administration. On the other hand, when the situation in the target state is of long duration and the political situation is in an advanced state of deterioration, such as would be the case in Lebanon or Iran, then gunboat and troop carrier intervention offers meager prospects of success and the danger of great power confrontation. In all cases there are the problems of legality to be overcome and the damage incurred by the creation of image problems and outraged sensibilities among nations that we must work with on a cooperative basis if we are ultimately to have a livable world.



## NOTES

<sup>1</sup>John A. Munroe, **Delaware**, Teacher's College Press, Columbia University, New York, 1965, pp. 4-5. See also Frederick B. Tolles, **Meeting House and Counting House**, Random House, New York, 1948, Chapter 11.

<sup>2</sup>Charles Oscar Paullin, **Diplomatic Negotiations of American Naval Officers, 1778-1883**, The Johns Hopkins University Press, Baltimore, MD, 1912, Preface.

<sup>3</sup>*Ibid.*

<sup>4</sup>Robert Erwin Johnson, **Far China Station, The U.S. Navy in Asian Waters, 1800-1898**, United States Naval Institute Press, Annapolis, MD, 1979. Several chapters of this book detail the exploits of the **Monocacy** and **Ashuelot**.

<sup>5</sup>*Ibid.*, Ch. 11.

<sup>6</sup>*Ibid.*, Ch. 13.

<sup>7</sup>Thomas G. Paterson, et. al., **American Foreign Policy**, Vol. 2, 2nd Ed., D.C. Heath and Co., Lexington, MA, 1983, Chapter 7.

<sup>8</sup>Herbert K. Tillema and John R. Van Wingen, "Law and Power in Military Intervention," **International Studies Quarterly**, Vol. 26, No. 2, June, 1982, p. 226.

<sup>9</sup>*Ibid.* See also I. Brownlie, **International Law and the Use of Force by States**, Clarendon Press, London, 1963.

<sup>10</sup>Tillema and Van Wingen, p. 227.

<sup>11</sup>*Ibid.*, p. 226. Other legal formulations regulating military intervention included the League of Nations Covenant and the Kellogg-Briand Pact.

<sup>12</sup>*Ibid.*, see appendix entitled Military Interventions by Four Major Countries, 1846-1980. I have added three subsequent interventions, France in Chad, 1983, Britain in the Falklands, 1982, and the United States in Grenada, 1983 to the totals.

<sup>13</sup>These are the cases noted in note 12.

<sup>14</sup>This table is extrapolated from the table in the appendix of Tillema and Van Wingen's article. The rationale for the Grenada intervention is from Current Policy No. 526, **The Larger Importance of Grenada**, United States Department of State, Bureau of Public Affairs, Washington, D.C., November 4, 1983.

<sup>15</sup>Tillema and Van Wingen, pp. 227-228.

<sup>16</sup>This tabulation includes only those states which have been active in opposing U.S. policy in significant and wide ranging actions. It can be argued that Iraq, Egypt, Ethiopia, Somalia, Cambodia, Indonesia, Nicaragua and Albania either are or at one time were revolutionary states. I have left them out if they have been almost entirely consumed with the

Arab-Israeli struggle or are so distracted by internal problems that they have not emerged as significant actors on the international scene. At least one formerly revolutionary state, Algeria, seems simply to have lost interest.

<sup>17</sup>George H. Quester, "Trouble in the Islands: Defending the Micro States," **International Security**, Vol. 8, No. 2, Fall, 1983, p. 174.

<sup>18</sup>*Ibid.*, pp. 174-175.

<sup>19</sup>*Ibid.*

<sup>20</sup>Current Policy No. 526, **The Larger Importance of Grenada**, United States Department of State, Bureau of Public Affairs, Washington, D.C., November 4, 1983, p. 2.

<sup>22</sup>Hans J. Morgenthau, **Politics Among Nations**, 5th Ed., Alfred A. Knopf, New York, 1983, pp. 80-81.

<sup>23</sup>*Ibid.*, pp. 40-44.

<sup>24</sup>*Ibid.*, p. 310.

<sup>25</sup>*Ibid.*

<sup>26</sup>Stanley Hoffman, **Primacy or World Order**, McGraw-Hill Book Co., New York, 1978, pp. 259-261.

<sup>27</sup>*Ibid.*, p. 259.

<sup>28</sup>*Ibid.*, p. 260.

<sup>29</sup>Barry M. Blechman, "The Evolution of the Soviet Navy," from George H. Quester (Ed.), **Sea Power in the '70's**, University Press of Cambridge, Cambridge, MA, 1975, p. 81.

<sup>30</sup>*Ibid.*, p. 81.

<sup>31</sup>Dominik G. Nargele, "Their Naval Infantry," **United States Naval Institute Proceedings**, Vol. 108, No. 10, October, 1982, pp. 152-155.

<sup>32</sup>For example, during the last conflict between Egypt and Israel, the Russians threatened direct intervention when it became obvious that the Egyptian Army was faced with complete and total defeat on the West Bank of the Suez Canal. The United States was forced to pressure the Israelis not to continue with the operation.



James Baldwin speaking of his own exile said that "No one really wants to leave his homeland. I left because I was driven out." Like him, the West Indian artist never wanted to leave home. But as early as 1960, George Lamming foresaw the inevitability of his own self-exile for he wrote:

I am still young . . . but already I feel that I have had it (as a writer) as far as the British Caribbean is concerned. I have lost my place or my place has deserted me.<sup>1</sup>

And by the end of his **In The Castle Of My Skin**, the hero "knew in a sense more deep than simple departure" that he "had said farewell, farewell to the land" of his birth. Again, through the English officials in **The Emigrants** Lamming asks, "How could sane men leave the sun and the sea where it was summer all the way, abandon this natural relaxation . . . to gamble their last coin on a voyage to England, England of all places." The book tells "the story of men taking ship with their last resources and sailing into unknown lands in search of adventure, fortune, and mystery."

Baldwin left because his homeland would not allow him to grow in the only direction in which he could grow. This statement aptly describes the West Indian artist of two decades ago. For example, Edgar Mittelholzer's emigrant seed must have been sown when he received a check for a story which was used in a foreign publication. C.L.R. James, too, saw the vision of home vanishing. However, he hoped his was not a permanent exile. Then in his **The Pleasure of Exile** George Lamming asks, "What are the peculiar pleasures of exile to the West Indian writer?" And he answers in a series of other questions:

Is it that they are looking for recognition? Is this recognition a confirmation of their ability as writers? Why do they feel insecure? Where is their ambition?<sup>2</sup>

Whatever the reason it is true that the West Indian has suffered colonialism, exploitation, poverty, economic frustration and racial discrimination and it is also true that the West Indian writer at home has had to grapple with little or no literary tradition or publishing facilities, and no loyal book-buying or book-reading public. Besides, the early West Indian writers had only five minor avenues open to them for presenting their work to the public--**Bim**, **Kyk-Over-Al**, **Caribbean Quarterly**, **Focus** and the English Broadcasting Corporation's "Caribbean Voices." These media at least put the West Indian writer on the West Indian map but they were absolutely inadequate for the professional writer. In spite of Derek Walcott's **25 Poems** which appeared in 1949, the West Indian writer who hoped to survive by writing had to move abroad. As Barbara Howes puts it "...the very fact of being in a small place makes the creative man's need for a larger experience of the world."



necessity."<sup>3</sup> In similar vein Louis James in the "Introduction" to **The Islands in Between** writes:

Seen against the various tensions of the area, it is not surprising that many creative Caribbean writers moved away from the West Indies to see their predicament in perspective.

But Lamming blamed the exodus on economic factors. In a television interview in London he said that "the West Indian writer came to England much as the West Indian labourer did, to seek an employer." Andrew Salkey goes a stage further and says that "the economics of British imperialism," has given the West Indian writer his taste for wandering. Edgar Mittelholzer, one of the pioneer exile writers, must have been a victim of the economics of British imperialism for his diary entry concerning his first locally published short story states that it is "simply paltry." Mittelholzer explains that although it was the first thing he did he had seen in print that he had written he refused to recognize it as "an infiltration." However it was a check for £1. 11s. 6d. for another of his short stories from **The Connoisseur** which forced him to concentrate all his efforts on English editors. In addition, Mittelholzer's father had told him frankly that "you can't make a living out of writing. That requires experience."<sup>4</sup> For Roger Mais, the West Indian artist is "...essentially a travelling, gambling man with a manuscript or two in his bag and a big dream of contributing to contemporary English Literature."<sup>5</sup> This statement well describes the young Lamming migrating to the refuge of a metropolitan culture with his **In The Castle Of My Skin** manuscript in his brief case. Even his fictional emigrants of **The Emigrants** had only one thought when they boarded the ship--"some conception of a better break in England." On the other hand Samuel Selvon gives us a picture of the true position of the West Indian emigrant seeking a job in England when through Moses in **The Lonely Londoners** he observes that "People are unaware that it is harder than money to get work in London." But he counters this observation by adding that when West Indian people in England see others running by the hundreds from home, it "is only logic for them to say it would be damn foolishness to go back."<sup>6</sup> V.S. Naipaul did return home, but in **The Middle Passage** he confesses that as soon as the ship on which he was travelling touched the quay, "I began to feel all my old fear of Trinidad. I did not want to stay," because "...we lived in a society which denied itself heroes."<sup>7</sup> However, Naipaul did grant heroism to cricketers in his **The Middle Passage**. For him, they were the only heroes. But, for him too, his "B. Wordsworth" was a hero. For although poetry could not give him a living and he had to write calypsoes to make one for himself, very few poets anywhere depend solely on poetry for a livelihood.

We can safely call the West Indian writer a "natural exile"--that is an exile who became an exile of necessity. He could not remain at home if he hoped to survive and succeed as a writer. But he has been very versatile, capable of living in America and writing about Jamaica and Harlem like Claude McKay or of living in England and writing about Trinidad and London like V.S.

Naipaul, or like V.S. Reid remaining in Jamaica and setting a novel in Kenya. Naipaul has gone a stage further and used an all-white cast in his **Mr. Stone and the Knight's Companion**. But at every turn his thinking is West Indian flavored. Naipaul may be rejecting West Indian society in **Miquel Street** and **A House for Mr. Biswas** but he is also embracing it and examining it very carefully. There is no denying that the author identifies himself with his "B. Wordsworth," the poet born in a community which denied itself heroes. Naipaul is showing through this story that the West Indian artist had to escape from his home environment if he wished to make a name for himself. Gordon Rohlehr describes Naipaul's position in **Miquel Street** and **A House for Mr. Biswas** as a narrator of "a vital part of West Indian history, for the books are a sensitive presentation of the history of underprivilege."<sup>8</sup> Here Naipaul is trying to solve and explain the West Indian artist's emigration.

Exile was inevitable for the West Indian writer who made good. We could certainly echo the sentiments of Richard Wright who in the "Introduction" to Lamming's **In The Castle Of My Skin** writes:

Even before Lamming leaves his island home, that home is already dying in his heart, and what happens to Lamming after that is something we all know. We only have to look around us to see...a frantic search for a new identity.

Perhaps Lamming, through Trumper in **In The Castle Of My Skin** is voicing the sentiments of West Indian writers when he says, "I want to go back different. The emigration scheme might be all right for some people but it don't give you the kind of freedom you want. I like to be free." What was this freedom? we ask. It surely was not a luxury. It was a need--a need to accept the naked truth of one's condition. And as Sylvia Wynter describes it "our condition is one of uprootedness" and "we (West Indians) anticipated, by centuries, that exile, which in our century is now common to all."<sup>9</sup> Using some of the soul-stirring, dynamic titles of West Indian novels by West Indian authors, we can empathize with the statement that we are **The Children of Kaywane's** children from **Miquel Street** who have had a **Season of Adventure** across **The Middle Passage** as a direct result of **The Pleasure of Exile**.



### Footnotes

<sup>1</sup>Sylvia Wynter, "Reflections on W. I. Writing and Criticism," in *Jamaica Journal* 11 No. 4 (Déc. 1968), p. 24.

<sup>2</sup>Wynter, p. 24.

<sup>3</sup>Barbara Howes, *From The Green Antilles* (London, 1955), p. XV.

<sup>4</sup>Edgar Mittelholzer, *A Swarthy Boy* (London, 1963), p. 2111.

<sup>5</sup>Andrew Salkey, *Stories from the Caribbean* (London, 1962), p. 11.

<sup>6</sup>Samuel Selvon, *The Lonely Londoners* (London, 1956), p. 9.

<sup>7</sup>V. S. Naipaul, *The Middle Passage* (London, 1964), pp. 40-41.

<sup>8</sup>Gordon Rohlehr, 'The Ironic Approach' in *The Islands in Between* edited by Louis James (London, 1968), p. 139.

<sup>9</sup>Wynter, p. 24.

## THE ROLE OF THE CONCUBINE IN LATIN AMERICAN LITERATURE

Filippo Maria Toscano

Latin America since her colonial period has consistently produced a literature aimed at problems inherent in social life, political issues and literature for the purpose of entertaining. Among the most pressing domestic problems are a pattern of male-female conflict and most particularly, the respective masculine and feminine stereotypes that emerge as mechanisms for dealing with such conflicts.

Until very recent times scholarly examinations of Latin American literature have focused almost exclusively on the male sphere. Consideration of the roles and behavioral expectations of women in Latin American society has been conspicuously inferior in both quantity and quality. The reasons for this neglect are difficult to fathom. More than any other woman in the world, the Latin American woman has been the victim of a peculiar sexist image, one that dates back to pre-Columbian times. The specific literary origins and implications of this image have been dealt with by virtually every major Latin American author. But in all honesty it is necessary to point out that the roots of the traditional degradation and service status of Latin American women can be found in accounts of civilizations that pre-date the European influx. Women were accorded a place in society not only greatly inferior to their relative social and economic contribution, but also were humiliated and often treated with contempt because they were guilty only of being born female.

The social condition of women did not improve after the Conquest. Aboriginal social patterns persisted and were reinforced by the Spanish tradition of female subordination. From the early post-Conquest period two of the most enduring female stereotypes emerged: Malinche and Guadalupe. These stereotypes represented an extension of the pivotal Judeo-Christian female dichotomy of Eve-Mary. Eve, the mother of mankind, brought the wrath of God upon her daughter through her disobedience and evil. She became the female archetype to which the traitorous actions of a real woman of the Conquest, a slave princess, Malinche, were referred. When she was twelve years old, she was given to the people of Tabasco as part of the slave trade. This group subsequently sold her to the Spanish soldiers. Because of her fluency in several Indian languages as well as her talent for Spanish, Malinche became the official interpreter for Hernan Cortes, who gave her the Christian name of Marina with the title of "Dona." From this very odd association grew what many years later was called a disgraceful sexual liaison which forever branded poor Malinche a traitor in the eyes of posterity.

The contempt that the Mexicans continue to heap upon this poor scapegoat is summarized and enriched by personal comments by Octavio Paz in his book *The Labyrinth of Solitude*.<sup>1</sup> According to Paz, Malinche is,



indeed, the symbol of the country's defeat, total surrender, and loss of honour. She represents the Indian girl lured, seduced, and abandoned by the Spaniards. As the little child does not forgive his mother who abandoned him to look for his lost father, so the Mexican people don't forgive the "treason" done by Dona Marina when she served as a most valuable aid to the Spanish armies and speeded the defeat of her nation.

The stereotyping of Latin American women which arose as a result of sexual exploitation of native women by Spanish "conquistadores" is not confined solely to Mexico. Francisco Pizarro, conqueror of the Incan Empire, was no more immune than his compatriot Cortes to the promise of gold, glory and... sex without complication.

According to the historian Juan Descola, Francisco Pizarro himself had a mistress who was none other than the sister of Atahualpa, his victim. Her name was Estella de Oro. She was running away with her wounded lover Quilacu who managed to run away with her to the Spanish camp where Hernando de Soto, and Captain Pizarro gave their help and assistance; but the young Quilacu died, leaving in the hands of the soldiers the beautiful girl as well as her enormous wealth of silver and gold mines and an array of workers.

How can a social system so rigidly based upon the two antithetical "types" perpetrate and justify itself? In the light of the innate imperfection of the human condition, how can a society realistically expect its female members to conform completely to a Guadalupe stereotype? And by the same token, how can it relegate Malinche to the status of whore for what would seem a minor deviation from prescribed behavior? What means of reconciling her own behavior with that dictated by female role stereotypes is available to the typical woman in such a society? The answer to these questions allows us to understand the actions and attitudes adopted by the female protagonist of major Latin American literary works in response to the demands of their society, for much of human behavior is the physical manifestation of hidden or suppressed motivations. The woman who secretly fears abandonment may adopt a demeanor of exaggerated independence which will ultimately topple under the strain of loneliness. A woman who meekly accepts a submissive, placid role in society may, in reality, yearn to be the assertive mistress of her own fate.

The Latin American woman throughout recorded history has been, with rare exceptions, first and foremost a victim. Her role in society has been shaped by the female role expectations imposed by male oriented society. She exercised no control over her own destiny. Her interests were represented solely by male family members. She was therefore inextricably dependent upon men. Her choice of husband, the disposition of her inheritance or dowry, even the fate of her own body, all were overrun by men. Because of such social powerlessness, the Latin American woman lay fully exposed to the abuses of unscrupulous male managers or executors. Most of the time she could suffer in silence while they reaped the rewards of their duplicity.

By examining several female characters from the major works of the most popular writers, we attempt in this paper to chronicle the life and experience of our archetypical Latin American concubine. She is the woman taken advantage of and often oppressed by the system, by society, by war and by other circumstances. She must sell or freely give herself, her body, her mind, her independence in order to achieve the security that society does not permit her to obtain in any other fashion.

Mariano Azuela<sup>2</sup> (1873-1952) in his book *The Underdogs* (1915) presents to his readers a realistic portrait of people fighting for what they believe and for what they don't believe. Sacking of cities, killing of many innocent people and orgies where the women who do not volunteer are taken by force, produce a desperate frenzy, where no one knows when a bullet will put an end to this miserable life. The characters are personifications and allegories that represent the tragedies and the travesties of the Revolution. The women of the war, Camila and La Pintada are prostitutes to be cold-bloodedly used and discarded by men who amuse themselves with sadism.

A difficult point of view was taken by the Argentinian writer Manuel Galvez<sup>3</sup> (1882) whose novels formed the vanguard of the Argentinian modernist movement. This trend, a direct derivative of the modernism that originated with Dario's *Azul* (1888), was marked by an emphasis on the cosmopolitan. Unlike Dario, however, Galvez did not consider impoverished idealists, the servant classes, and the underclass of prostitutes and alcoholics distasteful or prosaic. Rather, he saw in them a spiritual defeat, a sickness of soul rooted in the stupidity of social stereotypes. Galvez's female characters who lack spiritual faith are less able to resist sin; this is true for Roselda, Nacha, etc. Nacha, for example, is a lower class girl who is forced to become a prostitute in order to support herself and her mother. She becomes the property of the wealthy and lascivious Pampa Arvedo, whom she refers to as her "owner." Her very physical appearance inspires an atmosphere of child-like fragility and pathos. Her dark eyes mirror a pervasive melancholy. She has a surface elegance and sophistication gleaned from long practice at quietly suppressing an inner despair. Her relaxed and indifferent movements give her a languid air. She is, in sum, tragically attractive. "She was speaking as if in a vacuum without addressing herself to anybody. She was speaking for herself as if to entertain herself with her own words. She looked like a sleepwalker. He was not listening. He was looking at her, that's all. It was enough to feel her sweetness next to him. The smoothness and the trembling of her words and the melancholy of her eyes were enough. Tango was giving to her words and to her eyes a burning sadness. The guitar with the smoke of its lonely bitterness. And even the honor of Nacha seemed to be responding to the lethargic influence of his music."<sup>2</sup>

Nacha must resort to emotional slavery because society will not allow her to forget that she is a "bad woman," or that she is "soiled goods." All of her attempts at personal reform do not succeed precisely because she cannot rise above her reputation. The road back to respectability disappears amid



the shifting sands of the double standard. She is a "bad woman" because she "wants" to be, because she secretly enjoys the notoriety that accompanies such a shameful existence. Nacha hates her "owner," but she cannot bear to leave him. He insults and abuses her; but instead of turning against him, she becomes even more obedient and submissive than she was before.

She is a good symbol of some socio-cultural problems that characterize the treatment of women in Latin American society as a whole. Women such as Nacha who have no male relatives to protect them from financial destitution have few options. She sums up the despair of living within a social system that is unconcerned with the emotional well-being of the individual, a system that is concerned only with outward conformity to "female" role expectations. Her thoughts leave the reader with the essence of how it feels to be a woman and a victim. "We girls have to make a show of being what we are not - it's easier that way for us to forget our real selves."<sup>3</sup>

A different type of woman comes to the reader via Juan Rulfo. His novel **Pedro Paramo**<sup>4</sup> is a procession of abused women. All of his narrative situations are mobile. Temporal and spatial orders become confused and eternalized. No single character clearly sees or understands the other characters. The net result is the creation of a reality that exist only as it is transpiring between the novelist and the reader. An unfortunate girl, Donis' sister imprisons herself in a hell of guilt and shame through the inability to take responsibility for her own life. She allows fear to paralyze her into immobility. Her victimization is derived directly from her fear that her incestuous relationship with her brother will be exposed. The consequences, societal condemnation and ostracism plus possible abandonment by her brother-lover, would be dire to her emotional and physical well-being. It is obvious to her that the only choice is to persist in her present course of action. She refuses to leave the house. She is obsessed with the terrifying thought that her iniquities will be discovered. She genuinely believes that her sins are written on her face for all to see, and that they have actually distorted her external appearance in some way.

"Then the dark room, and a woman snoring beside me. I noticed that her breathing was uneven, as if she were dreaming, or as if she weren't really asleep, just imitating the sounds of a dream. It was a slat bed, covered with sacks that smelled of urine, as if they'd never been aired in the sun, and the pillow wool so hard or sweat-soaked it was almost like wood."

I could feel the woman's naked legs next to mine, and her breath next to my face. I sat up in bed and leaned back on that abode pillow. "Weren't you asleep?" she asked. "I'm not sleepy. I slept all day. Where is your brother?" "He went out. You heard him say he was going to. He probably won't come back tonight." "You mean he still left after what you told him?"

"Yes, I don't think he'll come back. That's the way they all start out. I've got to go here, or I've got to go over there. Till finally they go so far away it's easier just to stay there. He's always wanted to leave, and I think that's

what's happened. He didn't say anything to me, but I think he left me with you, so you could take care of me. He saw his chance. All that about the stray calf was only a story. You'll see, he isn't going to come back."

I wanted to tell her, "I'm going outside to get some air, I feel sick to my stomach," but I just said, "Don't worry, he'll come back."

When I got up, she said, "I left you something on the brazier in the kitchen. It isn't very much, but it'll kill your hunger."

I found a piece of jerked beef, and some tortillas on the brazier.

"It's all I could get," I heard her saying from the other room, "I got them from my sister, for two clean sheets that I've kept since my mother died. She must have come to get them. I didn't want to say so in front of Donis, but she was the woman that frightened you."

A black sky, full of stars. And next to the moon the biggest star of all."<sup>4</sup>

Women like Donis' sister are incapable, emotionally and economically, of living without a man. They may be terribly ashamed or resentful of their lack of autonomy, but they nonetheless sell themselves to a man, sometimes any man, in order to survive. Their greatest humiliation, though, comes from the accompanying premise, that a man is free to treat such a woman in any way he pleases because he knows that she will never complain. Her fear of alienating him and thus losing his support is too powerful a specter.

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#### FOOTNOTES

- <sup>1</sup>Paz, Octavio. **The Labyrinth of Solitude**. Grove Press New York, 1961  
<sup>2</sup>Azuella, Mariano. **Los de Abajo**. Pedro Robredo Ed. Mexico 1938  
<sup>3</sup>Galvez, Manuel. **Nacha Regules**. Pax Ed. Buenos Aires 1920  
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VISCERAL PERCEPTION:  
ITS ROLE IN PHYSIOLOGICAL SELF—REGULATION

Albert B. Miller

Developments in recent years concerning the behavioral components of stress-related disorders have contributed significantly to our understanding of the basic underlying mechanisms governing the effectiveness of behavioral treatments for psychophysiological problems. One of the major techniques used in treating these problems has been biofeedback. This technique involves the monitoring of physiological activity (e.g., heart rate, blood pressure, peripheral blood flow, etc.) and providing this information to the person in an easily discriminable form which can then be utilized in the process of learning how to control these variables. At issue in this regard are the precise mechanisms by which the person learns this control and the specific role played by the individual's discriminative capacity in the acquisition of this control. Gannon (1977) has made a comprehensive review of this literature and points to the need to clarify in more objective and reliable terms the relationship between the ability to discriminate, and the ability to control a physiological process. Research designed to contribute answers to these questions is currently in progress in our psychophysiology laboratory and forms the basis for the points made in this paper. The overall objective of our work in this area is to place within the context of a biopsychosocial model of illness (see, e.g., Temoshol et al., 1983) a framework for understanding the process of learning physiological self-control. The extensive involvement of learning in physiological regulation is cited by Dworkin (1984) who points out that even genetically determined behaviors may depend on learning in a variety of ways, and Pickenhain's (1984) concept of living systems which also emphasizes the importance of learning. Understanding the mechanisms and limits of visceral perception is widely recognized as being critical to our understanding of these learning processes.

Visceral perception involves the detection, discrimination, organization and utilization of information from the interoceptors, i.e. those receptors which respond to changes in the visceral such as hunger, pain and thirst. These receptors include mechanoreceptors, chemoreceptors and thermoreceptors (Brener, 1977). The peripheral and central nervous system involvement in viscerosception has been discussed by Adam (1978) who points out the limited central representation for visceral afferents which may be related to the usually limited involvement which we have in systematically using this information. That utilization of this information may have considerable significance is illustrated in the work of Schandry (1981) who demonstrated that emotional experience is coupled to perception of bodily processes and is important to emotional experience.



Montgomery and Jones (1984) have suggested that observed individual differences in visceral perception may be accounted for by hemispheric specialization and emotionality. Cuthbert et al. (1981) also cites the importance of examining the development of physiological control in the complex interaction between the informational and motivational components of the stimulus context in which development of physiological self-control occurs. This context is crucial to the development of visceral perception and the management of the effects of stress. As Brener (1974) has noted, the consequences of interoceptive activity frequently do not lead to detectable changes in the external sensory environment which makes visceral perception essentially diffuse and nontopographic in nature.

#### Major Issues in Visceral Perception

In a series of papers, Brener (1974a, 1974b, 1977a, 1977b, 1979) has developed a model of visceral learning which suggests that the self-control of visceral activity is dependent on interoceptive perception of that activity. From this, Brener concludes that training in visceral perception should lead to more effective control of visceral responses. The essence of Brener's view is that subjects learn to discriminate interoceptive afferentation related to the response to be controlled. The role of exteroceptive feedback is to provide the information by which an association is made between the interoceptive response and the interoceptive afferentation which is generated by that response. This process results in what Brener refers to as a response image which can then be activated by appropriate instructions. The afferentation which is identified through biofeedback thus leads to the development of new discriminative skills which are a critical component in the process of acquiring voluntary control. The process by which these skills are thought to develop has frequently been described in terms of theories of motor skill development. Recently, however, Lacroix (1981a, 1981b) has questioned the ability of Brener's theory to account for the data on the acquisition of control and discrimination of interoceptive events and cites numerous studies in which Brener's views were not confirmed. Specifically, these studies have not confirmed Brener's view that autonomic control results from the subject's ability to discriminate response afferentation and to formulate an image of the pattern of afferentation resulting from past occurrences of the target response. Lacroix also reviews the pertinent motor skills literature and concludes that the acquisition process might well emphasize efferent rather than afferent processes. To develop these ideas, Lacroix (1981b) presents a two-process theory which views the acquisition of autonomic control as one based on efference rather than afference. Briefly, the theory proposes that in most biofeedback training situations, the subject identifies various efferent processes associated with his existing behavioral repertoire. Which behavior is activated depends on a number of variables such as biological hard-wiring, the nature of the instructions, the nature of the label which identifies the target response and specific suggestions concerning response strategies.

The second part of the two-process theory suggests that an afferent process similar to that suggested by Brener becomes operative in those cases where the subject's existing behavioral repertoire does not include a behavior which is effective in controlling the response or where the subject has an appropriate behavior in his repertoire but the experimental conditions render these behaviors inaccessible. Most of the research on the relationship between discrimination and control has been done with heart rate, largely because of the extensive amount of related information already available and its ease of measurement. None of this research, however, has provided a clear indication of the determiners of visceral perception. The research currently underway in our laboratory is designed to make a contribution in this area. It is suggested here that a more effective modality for visceral perception studies might be used which eliminates some of the problems associated with heart rate such as the ease with which it can be manipulated by the subject. Peripheral blood flow would seem to fit this requirement since it is not easily manipulated by the subject and is less frequently linked to a person's emotional responses. This response is easily measured via observed changes in peripheral temperature and is known to be an important component of responses to stress which gives it practical utility in biofeedback approaches to stress management. We will report our research results in this area in future issues of the **Faculty Journal**.

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