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CENTENNIAL EDITION

BRIGHAM YOUNG UNIVERSITY
THE FIRST HUNDRED YEARS
In this first Centennial number, BYU Studies looks back at some of the accomplishments of the BYU faculty by reprinting representative articles that faculty members have published in national and international journals during the university’s first hundred years. The articles were nominated by the college deans as representative of the kinds of articles the faculties of the various colleges have published. Because of space limitations we are able to reprint only one paper from each college, and at that, this issue is fifty percent larger than regular size. Recognizing that we have a readership that crosses many disciplines, we were unable to reprint some excellent papers which made significant contributions to the world of knowledge and represented major achievements on the part of BYU faculty because those papers were written for technical and specialized readers in the field. To retain as much of their original flavor as possible, the papers reprinted here are in the styles of the various journals in which they first appeared. We wish to thank all the journals concerned for permission to reprint these articles.

—Editor.
β-Lysin

David M. Donaldson

A brief review of the history and some of the characteristics of β-lys in will be presented before the possible role of β-lys in the inflammatory reaction is discussed. Historically, it was shown in the latter part of the nineteenth century that serum contained thermostable substances which were bactericidal for gram-positive bacteria. In 1887, Josef Fodor demonstrated that defibrinated blood exhibited anthracidal activity. The following year, von Behring reported that the anthracidal substance in serum resisted inactivation at 60 C. In 1904, Pirenne found that the thermostable substance in rat serum which was lethal for gram-positive bacteria did not kill gram-negative bacteria. In a series of papers between 1924 and 1936, Pettersson worked on the antimicrobial spectra of sera from a variety of mammalian species. He called these thermostable substances in serum β-lysins to distinguish them from heatlabile α-lys in, alexin, or complement. In the early 1950s, working as a graduate student under the direction of Stanley Marcus, I demonstrated the total body X irradiation suppressed bactericidal activity without changing serum levels of either complement or antibody (3, 11).

The initial observation that led to the purification of β-lys in in our laboratory (1) is a typical example of serendipity. A sample of rabbit serum suspected of contamination was sterilized by Seitz filtration to illuminate the contaminating bacteria so they would not be counted in the serum bactericidal test. This Seitz-filtered serum was devoid of bactericidal activity for Bacillus subtilis. The filter pad with its absorbed β-lys in can be washed with large volumes of water or physiological saline solution without removing the β-lys in. The β-lys in can then be eluted from the Seitz filter pad with 1.5 M NaCl, resulting in more than a 100-fold purification of the β-

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lysins. The salt concentration of the eluate needs to be lowered by either dilution or dialysis before it is tested, since concentrations of 0.45 M NaCl or greater inhibit bactericidal activity of \( \beta \)-lysins. These Seitz-filter eluates of \( \beta \)-lysins can be further purified to as great as 37,000 times that of serum by carboxymethyl-cellulose chromatography (10).

This Seitz-filter technique has been used in our laboratories to purify \( \beta \)-lysins against organisms belonging to the genera Bacillus, Clostridium, Staphylococcus, Micrococcus, Lactobacillus, and Arthrobacter. Schultz (17) used this technique to isolate \( \beta \)-lysins against Listeria.

Table 1 compares \( \beta \)-lysins with the other two most extensively studied bactericidal systems found in serum. With the exception of members of the genus Streptococcus, which are resistant, most gram-positive bacteria are susceptible to the lethal action of \( \beta \)-lysins. It has been our experience that gram-positive organisms are never killed by the antibody-complement system, and we have yet to test a strain of gram-negative organisms which is susceptible to purified \( \beta \)-lysins.

In addition to gram-negative bacteria, all molds, yeasts, viruses, mammalian cells in tissue culture, and mycoplasmas were resistant to the lethal action of \( \beta \)-lysins.

\( \beta \)-Lysin differs from the two other bactericidal systems in that the serum levels of \( \beta \)-lysins do not equal the plasma concentrations. For example, the serum \( \beta \)-lysins activity against B. subtilis is approximately 16 times that of plasma. This increase in \( \beta \)-lysins against the bacilli can be explained by the fact that \( \beta \)-lysins is released from platelets during blood coagulation (2, 4, 8, 19). Even though serum

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Antibody-complement</th>
<th>Lysozyme</th>
<th>( \beta )-Lysin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bactericidal spectrum</td>
<td>Gram-negative</td>
<td>Gram-positive</td>
<td>Gram-positive</td>
</tr>
<tr>
<td>Serum concentration (rabbit)</td>
<td>Variable, = plasma</td>
<td>1 to 2 ( \mu )g/ml, = plasma</td>
<td>32 units/ml, 16 ( \times ) plasma</td>
</tr>
<tr>
<td>Origin</td>
<td>Ab-plasma cells</td>
<td>Lysosomes</td>
<td>Platelets, ?</td>
</tr>
<tr>
<td>Chemical nature</td>
<td>Proteins and glyco-proteins</td>
<td>Basic protein</td>
<td>Basic protein</td>
</tr>
<tr>
<td>Molecular weight</td>
<td></td>
<td>15,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Site of action</td>
<td></td>
<td>Cell wall</td>
<td>Cell membrane</td>
</tr>
<tr>
<td>Mode of action</td>
<td>Cascading enzymatic reactions</td>
<td>Enzymatic reaction</td>
<td>Nonenzymatic (similar to histones)</td>
</tr>
</tbody>
</table>
is more bactericidal than plasma for both *Staphylococcus* (10) and *Listeria* (17), attempts to prove a platelet origin for the β-lysins against these two types of organisms have been unsuccessful.

β-Lysin is a highly reactive cationic protein with a molecular weight of approximately 6,000. In normal serum, it appears to be attached to the serum proteins since it is distributed in all protein fractions after either ammonium sulfate fractionation or Sephadex gel filtration of serum (6). When purified β-lysine is placed on a Sephadex column in the absence of other proteins, it attaches to the beads. It will not pass through the column unless the ionic strength of eluting fluid is about 10 times the physiological concentration. Consequently, a 1.5 M NaCl solution was used to estimate the molecular weight of β-lysine (10).

The cell membrane is considered to be a primary site of action of β-lysine since: (i) β-lysine combines with purified cell membranes (7); (ii) β-lysine treatment prevents the development of the space between the wall and the plasma membrane which normally occurs in cells suspended in hypertonic sucrose solutions (12); (iii) protoplasts are readily ruptured by β-lysine (13); (iv) freeze-etch preparations of β-lysine-treated cells have wrinkled and pitted plasma membranes (we have yet to see a normal membrane on a β-lysine-treated cell or a pitted membrane on an untreated cell); and (v) there is a complete loss of unit structure when purified cell membranes are treated with β-lysine and examined by use of thin sections and electron microscopy (7).

The exact mode of action of β-lysine is unknown, but appears to be of a nonenzymatic nature. Temperature and pH curves which are characteristic of enzyme reactions cannot be obtained with β-lysine. β-Lysin may be similar to other cationic bactericidal agents such as protamine sulfate, histones, and cetyltrimethylammonium bromide. These agents are similar in that all of them act on purified cell membranes by stimulating or exposing the membrane adenosine triphosphatase of *B. subtilis* (16). β-Lysin resembles the histones in both charge and molecular weight.

The release of β-lysine in the inflammatory response may be of particular significance to the host defenses because of the low levels of β-lysine found in normal body fluids (9). Myrvik’s group reported (14, 15) that sera from humans during acute-phase reactions had elevated lethal activity for *B. subtilis*.

Table 2 compares the levels of plasma β-lysine with the free β-lysine found in the peritoneal exudates of rabbits at different times
TABLE 2. Extracellular β-lysin in peritoneal exudates induced by glycogen

<table>
<thead>
<tr>
<th>Prepn</th>
<th>N (mg/ml)</th>
<th>Units/ml</th>
<th>Specific activity^a</th>
<th>Relative activity^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 h</td>
<td>0.55</td>
<td>2</td>
<td>3.6</td>
<td>33</td>
</tr>
<tr>
<td>12 h</td>
<td>0.91</td>
<td>8</td>
<td>8.8</td>
<td>80</td>
</tr>
<tr>
<td>18 h</td>
<td>1.54</td>
<td>16</td>
<td>10.4</td>
<td>95</td>
</tr>
<tr>
<td>24 h</td>
<td>2.31</td>
<td>32</td>
<td>13.9</td>
<td>126</td>
</tr>
</tbody>
</table>

^aSpecific activity = units of β-lysin/milligrams of N.
^bRelative activity = specific activity of exudate/specific activity of plasma.

after the intraperitoneal injection of 500 ml of 0.1% glycogen saline. Free β-lysin cannot be detected in the peritoneal fluid prior to an inflammatory stimulation, as shown in the second line of Table 2. The β-lysin concentration in the exudate increased to 32 units/ml by 24 h after the glycogen saline injection. This is 32 times the plasma β-lysin concentration per unit volume. The increase in specific activity which is a reflection of the bactericidal activity per milligram of nitrogen, is even more pronounced. In fact, the specific activity of the 24-h exudate is 126 times greater than the specific activity of the plasma. It is obvious from these results that the increase in β-lysin in the peritoneal exudate cannot be due to a simple diffusion phenomenon.

The increases in free β-lysin found in inflammatory exudates induced by either single or multiple subcutaneous injections of 0.1% aluminum silicate are recorded in Table 3. One of the major obstacles in obtaining these measurements is the difficulty encountered in collecting the inflammatory exudate. Even if as much as 100 ml of inducing fluid is injected subcutaneously into a rabbit, it is still necessary to inject 10 ml of saline solution into the inflammatory site immediately before collection in order to aspirate 3 to 5 ml of fluid. For this reason, these exudates might best be described as

TABLE 3. Extracellular β-lysin in inflammatory exudates induced by subcutaneous injections of aluminum silicate

<table>
<thead>
<tr>
<th>Prepn</th>
<th>N (mg/ml)</th>
<th>β-Lysin (units/ml)</th>
<th>Specific activity^a</th>
<th>Relative activity^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma</td>
<td>9.4</td>
<td>1</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Wash, 0 time</td>
<td></td>
<td>&lt;1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exudate, 18 h</td>
<td>0.57</td>
<td>2</td>
<td>3.5</td>
<td>32</td>
</tr>
<tr>
<td>Single injection</td>
<td>0.63</td>
<td>8</td>
<td>13.9</td>
<td>118</td>
</tr>
</tbody>
</table>

^aSpecific activity = units of β-lysin/milligrams of N.
^bRelative activity = specific activity of exudate/specific activity of plasma.
subcutaneous washes. Such an exudate or wash from nonstimulated subcutaneous tissues had less than 1 unit of β-lysin per ml. By 18 h after a single injection of aluminum silicate, the β-lysin concentration had increased to 2 units of activity, which was twice the activity of plasma. If the aluminum silicate injections were repeated every 24 h for 6 days, the β-lysin level in the exudate wash was eight times that of plasma. As in the case of the peritoneal exudate, the β-lysin activity per unit of nitrogen or specific activity of the exudate increased even more than the activity per unit volume. The β-lysin specific activity of the exudate reached 32 times that of plasma after a single injection and 118 times that of plasma after multiple injections.

A number of different phenomena may account for the increase in β-lysin at inflammatory sites. The coagulation that results in the thrombi formation in capillaries and in lymphatics draining inflammatory sites may cause a local release of β-lysin. Another factor that might indirectly increase the β-lysin concentration of an inflammatory exudate is any antigen-antibody reaction that takes place in inflammatory sites. The intravenous injection of a bovine serum albumin (BSA)-anti-BSA complex into a normal rabbit or of BSA into a BSA-immunized rabbit caused 52-fold increases in the free plasma β-lysin (18).

The presence of bacteria in an inflammatory site might also result in the release of β-lysin. Bacteria injected intravenously or added to whole citrated blood caused eight- and four-fold increases in the plasma β-lysin. The release of β-lysin after the injection of bacteria or the in vivo antigen-antibody reactions was accompanied by morphological damage to platelets and a decrease in the number of circulating platelets. Phagocytosis may play a role in the release of β-lysin induced by bacteria or antigen-antibody reactions since the β-lysin release was always accompanied by an increase in lysozyme. It is assumed that this lysozyme was released along with other lysosomal enzymes during the degranulation that accompanies phagocytosis. Another observation which gave indirect support to phagocytosis playing a part in β-lysin release was that bacteria added to citrated platelet-rich plasma did not cause the release of β-lysin which followed the addition of bacteria to citrated whole blood.

Table 4 contains results collected by Robert R. Roberts in our laboratory on what happens when citrated cell-free plasma or platelet-rich plasma is reacted with 1,000 μg/ml concentrations of 14 different enzymes for 30 min at 37°C. The β-lysin concentration of the
<table>
<thead>
<tr>
<th>Treatment&lt;sup&gt;a&lt;/sup&gt;</th>
<th>β-lysin concn (units/ml) after enzyme treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cell-free plasma</td>
</tr>
<tr>
<td>Controls (no enzyme)</td>
<td>2</td>
</tr>
<tr>
<td>Streptokinase</td>
<td>2</td>
</tr>
<tr>
<td>Neuraminidase</td>
<td>2</td>
</tr>
<tr>
<td>Papain&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td>Phospholipase C</td>
<td>2</td>
</tr>
<tr>
<td>Sulfatase&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
</tr>
<tr>
<td>Elastase</td>
<td>2</td>
</tr>
<tr>
<td>Phosphatase</td>
<td>2</td>
</tr>
<tr>
<td>Protease&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td>Ribonuclease</td>
<td>2</td>
</tr>
<tr>
<td>Carboxypeptidase B</td>
<td>—</td>
</tr>
<tr>
<td>Hyaluronidase</td>
<td>2</td>
</tr>
<tr>
<td>Lipase</td>
<td>2</td>
</tr>
<tr>
<td>Pepsin</td>
<td>2</td>
</tr>
<tr>
<td>Fibrinolysin&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>a</sup>Treatment was for 30 min at 37 °C.
<sup>b</sup>These enzymes inactivate purified β-lysin.

cell-free plasma was the same as that of the platelet-rich plasma before the incubation. As can be seen in the first line of Table 4, some β-lysin is spontaneously released from the platelets during the 30-min incubation. The β-lysin of cell-free plasma was never increased by enzyme treatment, but was lower in two of the four enzymes which inactivate purified β-lysin. In contrast, 9 of the 14 enzymes caused platelets to release β-lysin at an accelerated rate. Streptokinase, the most active of these enzymes, caused platelets to release 16 times as much β-lysin as was found in platelet-rich plasma which was incubated in the absence of enzyme. Neurominidase, papain, and phospholipase C caused an eight-fold increase in the release of β-lysin. Sulfatase caused a fourfold increase, and elastase, phosphatase, protease, and ribonuclease A doubled β-lysin release. The role of any of these enzymes in the in vivo release of β-lysin is strictly speculative at this time. The results do open the possibility that β-lysin may be released in an inflammatory site from platelets as a result of the enzymes in inflammatory exudates. These enzymes could be of host or microbial origin.

Even though β-lysin has never been found to be lethal for gram-negative organisms by itself, recent findings (5) in our laboratory have shown that β-lysin works in conjunction with both lysozyme and the antibody gram system in killing gram-negative bacteria. Consequently, the role of β-lysin in the inflammatory reaction is not limited to its effect on gram-positive bacteria.
LITERATURE CITED

While congruency as a way of behaving has received wide acceptance, many criticize it as (a) giving way to license, (b) not allowing for change, and (c) not really being practical. If we recognize that congruence is not the only value we hold, perhaps we can respond to a range of feelings stemming from a more complex value system. Simple, impulsive behaviors may not represent the range of feelings induced by a complex set of values; to be truly congruent one must be aware of both his values and the range of his feelings. Neither does congruence mean the maintaining of one's behavioral status quo. Congruence would require that a person who has behaviors he does not like should declare these to others and engage in a process of change. Being congruent may not only represent a value but requires skill in performance, and this skill can perhaps be learned. Since certain social systems may not initially support congruent behaviors, it may mean introducing change into the system before congruence is recognized as a practical way of living with others.

**CONGRUENT BEHAVIOR**

The idea of *congruence* as defined by Rogers (1961) has generated a share of excited acceptance attended by some disturbing criticism. Rogers defined congruence as "the term we have used to indicate an accurate matching of experiencing and awareness. It may still be further extended to cover a matching of experience, awareness, and communication. Perhaps the simplest example is an infant. If he is experiencing hunger at the physiological and visceral level, then his awareness appears to match this experience, and his communication is also congruent with his experience" (p. 308).

Rogers goes on to point out the disruption that occurs in a relationship where there is noncongruent behavior. If I experience a person as being angry, yet he denies he is angry, my trust of him is diminished and I become wary of a person who can act angry


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and yet deny it. On the other hand, if the person admits his anger, which is consistent with my experience of him, then I feel he is an honest, trustworthy person, my confidence increases, and the relationship develops around feelings of trust and openness. Thus, according to the Rogersian formulation, congruence leads to the following general principle:

The greater the congruence of experience, awareness, and communication on the part of one individual, the more the ensuing relationship will involve: a tendency toward more mutually accurate understanding of the communication; improved psychological adjustment and functioning in both parties; mutual satisfaction in the relationship (Rogers, 1961), p. 311.

Conversely, the greater the communicated incongruence of experience and awareness the more the ensuing relationship will involve: further communication with the same quality; disintegration of accurate understanding, less adequate psychological adjustment and functioning in both parties; and mutual dissatisfaction in the relationship (p. 313).

As I have presented this idea to many individuals and groups—while indicating my own acceptance of the general idea of congruent behavior—three main objections usually arise:

1. "Do you mean that a person should always behave exactly as he feels? If I feel like punching you in the nose, raping your wife, or yelling foul obscenities at you, should I go ahead?" The issue raised here is this: Does congruence mean giving in to all impulses immediately?

2. "I have been taught all my life that I should learn to control my anger or negative feelings. Suppose I don't like someone; if I behave as though I do like them then I will begin to like them. Suppose I feel unhappy; if I try to act happy then after awhile I will feel happier." The issue here is this: If I behave congruently all the time will I ever learn to improve on those behaviors in myself that I do not like?

3. "That congruence bit sounds good but it doesn't work. I told my wife the other night that I was really upset with the sloppy way I found the house every day when I came home from work. She was so mad she didn't speak to me for three days and I had to plead for forgiveness and buy her a present and behave in all kinds of noncongruent ways before we got back on an even keel." The issue here is this: Congruence does not always seem to result in immediate improvement in relationships. Why not?
DOES CONGRUENCE MEAN LICENSE?

Central to the first issue is the question: Is congruence synonymous with license? Does it mean that it is all right for a person to behave in any way so long as it is consistent with his current state of awareness and experience? Congruence in this direct and immediate sense has become a major value for some. The Hippies, for example, stress the hypocrisy of "society" and the lack of congruence they observe in conventional society. Behaving exactly as one feels—refusing to bathe, not working, taking drugs, freely exchanging sexual favors are the usually represented symbols of the congruent behavior of the Hippie subculture, although those acquainted with the movement contend it stands for much more than these stereotyped symbols.

Congruence as a value (implemented, it becomes a style of behavior) favored by Rogers seems to stem from a set of other kinds of values represented in our culture, in fact, as a counterreaction to certain values. Eric Berne (1964) has popularized the superficial "games" that characterize many human interactions. The "games people play" are the opposite of congruent behavior, and it is just such phony behavior that has given rise to the notion of congruence as an antidote to the prevailing pattern.

We also seem to be living in an emotional deprivation culture where the emphasis is on rational behavior to the restriction of emotional or feeling responses. Argyris (1962) and Gibb (1965), among others, have pointed out the dominance of rationality in the management of many organizations, with the resulting disruptive consequences as emotional behavior interferes with ongoing activities—because many persons prefer neither to recognize nor to deal with emotional behavior. Many of the writers who have pointed to this denial of emotional behavior in organizations have suggested that managers need to learn to recognize, accept, and deal more effectively with human emotions. In this sense they are suggesting more "congruence"—more openness of feelings and emotions and a greater willingness to deal with these feeling data openly and honestly. These arguments again are a reaction against those norms that support phoniness, maintenance of a facade, gamesmanship, and denial of feelings in behavior. But if congruency is a counter value, how far does it go? What are the limits, if any?

Control orientation. Congruency as a counter value is based on the fact of certain existing control orientations or value orientations already present in traditional society. While usually not explicitly
mentioned, for most people there are certain already built-in control features that usually result in congruency within limits. As mentioned above, the problem for many people is not going “too far” with congruency but dealing with overcontrolled behavior.

The great problem with issue number one stems from an assumption that congruency becomes if not the only value a person lives by at least the major value of import. At this level a searching examination of value systems for individuals and organizations becomes critical. One of the issues that has not been handled well in laboratory training is the personal value systems of participants. Congruency is suggested as a new value without really examining in any depth the other values people hold, including those values they perhaps should relinquish as no longer useful and those values they should cherish and retain.

When I am asked in a T Group the question raised in issue one—"Do you mean that you are always going to behave exactly as you feel even if you feel like hitting someone or seducing someone?" I answer the participants in this manner: "Being congruent is not the only value I hold. I also value the right of others. My personal value system stands for trying to live a helpful life with others, to value a society based on mutual respect and acceptance. If I were to engage in behavior that might be 'congruent' at the moment, it would also violate a great many other values that I deem important. I will not violate those values just to be congruent."

The issue then becomes: How do I deal with my hostile, punishing, or devastating feelings? If I were to act them out directly, it would violate certain other values I hold as important. If I deny these feelings and try to repress them, I am aware that the result may be a number of harmful consequences either toward myself (certain psychosomatic difficulties) or in subtle, hostile reactions toward others that are difficult to handle since they are hidden or guarded and can easily be denied. Thus my definition of congruence would encourage me to express my feelings without necessarily acting them out. However, this behavior leads to the problem raised in issue number two.

DOES CONGRUENCE ALLOW FOR CHANGE?

Here the issue concerns the matter of change. Congruence in its simplest form would require that each person behave according to his current level of awareness and experience. Sometimes we are not happy with that current level—we would like not to feel the
ways we sometimes do. We would like to change our pattern of feeling, experiencing, and expressing.

From time to time I encounter a person who accepts certain things about himself as fixed—as a part of his "personality" that is almost immutable. He explains that he should not really be held responsible for the consequences of his actions since "this is the way I am." This reminds me of the story of the scorpion who asked a frog to carry him across a stream. "No," said the frog, "you'll sting me if I do." "Of course not," replied the scorpion, "for if I do, you will sink and we will both be lost." At that the frog agreed and began to ferry the scorpion across the water. In the middle of the stream the scorpion suddenly jabbed the frog with a fatal sting. With his last breath the frog asked, "Why did you do it?" Replied the scorpion, "It's in my nature."

People are not scorpions (although some act the part), and we have learned that the nature of man is not fixed or unchangeable. A person who says, "I'm just a blunt person; if that hurts you, it's just the way I am," would seem to operate on the scorpion theory of personality. A congruence value would seem to give this type of person the perfect rationale to continue behaviors which are "just the way I am" regardless of their consequences on others.

**Verbalizing ambivalence.** When a person holds a complex of values, an experience will often elicit a range of feelings. To what feeling should one be congruent? Suppose I have strong hostile feelings toward another person to the extent that I feel like punching him in the nose. At the same time another set of values elicits some feelings of guilt about the hostile feelings; these other values suggest to me that I should be trying to "love my neighbor as myself." In fact, these other values direct me toward a goal of trying to understand and accept others the way they are. I do not want to live my life responding in quick, hostile, punishing ways toward others even if I currently feel that way. I do not want to adopt the scorpion theory that "this is just the way I am," therefore I will be congruent, and this makes everything justifiable. Certain values suggest change. While congruency seems to be a nonchange orientation, congruency in a more complete sense, in my experience, becomes the real basis for change.

If I feel hostile and punishing toward another person and at the same time have feelings of concern or guilt for feeling this way in light of other values, congruency theory would require that I share all of these feelings, not just the hostile ones. If I were truly con-
gruent (and this demands that I be aware of all my own values and my range of feeling experience), then I should express the range of feelings toward the person in words such as these: "John, when you try to dominate the meeting, I want to hit you on the nose. You make me feel very hostile and angry. But I don't like to feel that way. I also would like to accept you and work with you. How can I work out these feelings with you?"

Accepting and admitting that we do have certain "bad" feelings does not mean that we want to keep them or that we cannot change. My own experience tells me that if I can express these feelings that I do not like and want to change, that making them open to the person in question results in a lessening of these feelings in me and allows me to respond more to the feelings I have that I like better in light of other values. Should I go so far as to act as though I like a person even though I do not like him, in the hope that this will result in liking? In the light of the discussion above the answer would be no. I should share with the person both my feelings of dislike and my desire to like and engage in a continual interaction which will allow the liking feelings to be enhanced. This should be the result, if there is any validity to the Homans proposition that liking increases with interaction (Homans, 1961).

There is also the matter of timing. Should I express all of my feelings immediately? Does congruency demand immediacy of expression? A common experience for many is that if they "sleep on it" they will feel different later on. Some theories of personality would suggest that this lapse of time does not eliminate the feelings but allows the feelings to become buried in the unconscious part of ourselves. Others feel that through insight and self-dialogue we can resolve certain inner feelings without expressing them to others. This seems to me to be an interesting area for further research and analysis.

Can a person be congruent if he admits his feelings to himself but does not share them immediately and openly with the others involved? Can a person "wrestle" with his own feelings and the connected sets of values and win a private war within himself, or does congruency demand an open interaction? For me there is no clear answer to these questions. I think I have experienced both conditions. I think I have been able to silently examine my own conflicting feelings and achieve a sense of resolution or congruence, if you will, within myself. On the other hand, I have also experienced (usually in a laboratory setting) the exciting process of letting
another person know immediately my feelings about his behavior with a resultant working through of the differences between us. In my experience this had led to a deepening of the relationship as described by Rogers (1961). It may be that the non-open resolution of feelings toward another does not achieve an enhancement of the relationship although it may result in a sense of resolution within.

One theory of emotional behavior contends that emotions if not expressed continue to persist and to expand if the "cause" of the emotion continues. I am referring to the commonly experienced phenomenon of a person being continually irritated by another until he finally "can't stand it any longer." At that point there is an explosion of feeling that may actually be stronger than was originally warranted but was allowed to build up by the "holding in" of the feelings. If this is true of emotional behavior, then it would seem that resolutions of interpersonal conflict would result more easily if dealt with more immediately. It would also seem that if we would be more congruent in the earlier stage of the emotional experience, then our feelings at first would more accurately represent our reaction to the stimulus behavior. When expressed later on, the "built-up" emotion may not be a good representation of the feeling initially prompted by the behavior of the other. The "waiting game" may allow us to add fuel to the initial feelings as we begin via a selective perception process to "see things" in subsequent contacts. But then again, it may be that waiting for a time allows us to "cool down" and that the later emotion does more adequately represent a range of feelings and values if time is allowed for them to converge and interact within us. Again, more thinking and research seem to be needed.

CAN CONGRUENCE BE LEARNED?

The nub of issue number three seems to be: How are we congruent. Some people claim that they have tried congruent behavior and that the result has not been rewarding. Rogers (1961) feels that congruency will result in the enhancement of a relationship. It seems to me that there are differing ways or differing styles that people have in behaving congruently. Congruent behavior for Person A may appear to others as crude, blunt, and punishing, whereas Person B's behavior, also congruently oriented, may be perceived as open, helpful, and trustworthy. Is there not some element of skill in behavior? Is it possible in expressing our feelings toward others
to learn ways that communicate better and result in reactions from others more in line with our intentions toward them? It appears to me that one of the reasons for a "Human Relations Laboratory" is not only to help participants examine a new value like congruency and to see how it fits into their value structure but also to help them develop some behavior skills in implementing this new value.

In discussing feedback, Argyris (1962) points out what I have found to be an important factor in giving helpful feedback: namely, that we remain descriptive and nonevaluative. If this is true, we might then teach people to give nonevaluative feedback. This same condition may be true for all attempts at congruent behavior—that is, learning the skill of expressing our feelings in descriptive, nonevaluative terms. The process stemming from an interaction context may follow a formula expressed like this: "When you did this (describe the action), it made me feel this way (describe as accurately as possible the inner state you now experience)."

Many people worry about congruent behavior. "How can I present my feelings tactfully so I shall not hurt anyone?" "If I think through what I am going to say and choose my words carefully, then perhaps I shall not get into difficulty." This careful planning and choosing often results in a response that sounds guarded, cautious, rehearsed, and anything but authentic, congruent communication. The descriptive formula may be at least one method of allowing for more immediate, spontaneous congruency.

**The setting.** It should also be recognized that human interaction takes place in a social structure and that despite the skill of the one being congruent, social norms and expectations may mediate against a positive response. Each of us interacts with others within the context of a social system where certain norms operate and where each person has a defined position or status and a role definition. The operation of the system "expects" certain consistent role performances. Some persons in subordinate role positions have reported going back home from a human relations laboratory and trying out new congruent behaviors with disconcerting results. The superiors continue to expect the old subservient behavior of a subordinate. These new congruent behaviors are totally unexpected and are perceived as threatening, and are thus responded to negatively. There is little system support for the new congruent behaviors, and in a short time the person reluctantly abandons the new congruency for the old, more rewarded, role behaviors.

Goffman (1959), an astute observer of the interaction scene,
describes the social order that exists when people perform as expected:

Ordinarily the definitions of the situation projected by the several different participants are sufficiently attuned to one another so that open contradiction will not occur. I do not mean that there will be the kind of consensus that arises when each individual present candidly expresses what he really feels and honestly agrees with the expressed feelings of the others present. This kind of harmony is an optimistic idea and in any case not necessary for the smooth working of society. Rather, each participant is expected to suppress his immediate heartfelt feelings, conveying a view of the situation which he feels the others will be able to find at least temporarily acceptable. The maintenance of this surface of agreement, this veneer of consensus, is facilitated by each participant concealing his own wants behind statements which assert values to which everyone present feels obliged to give lip service. Further, there is usually a kind of division of definitional labor. Each participant is allowed to establish the tentative official ruling regarding matters which are vital to him, but not immediately important to others, e.g., the rationalizations and justifications by which he accounts for his past activity. In exchange for this courtesy he remains silent or non-committal on matters important to others but not immediately important to him. We have then a kind of interactional *modus vivendi*. Together the participants contribute to a single over-all definition of the situation which involves not so much a real agreement as to what exists but rather a real agreement as to whose claims concerning what issues will be temporarily honored. Real agreement will also exist concerning the desirability of avoiding an open conflict of definitions of the situation. I will refer to this level of agreement as a "working consensus" (Goffman, 1959, p. 9).

Goffman further claims that there is a certain "morality" in behaving consistently with one's defined roles:

In stressing the fact that the initial definition of the situation projected by an individual tends to provide a plan for the cooperative activity that follows—in stressing this action point of view—we must not overlook the crucial fact that any projected definition of the situation also has a distinctive moral character. It is this moral character of projections that will chiefly concern us in this report. Society is organized on the principal that any individual who possesses certain social characteristics has a moral right to expect that others will value and treat him in an appropriate way. Connected with this principle is a second, namely, that an individual who implicitly or explicitly signifies that he has certain social characteristics ought in fact to be what he claims he is. In consequence, when an individual projects a definition of the situation and thereby makes an implicit or explicit claim to be a person of a particular kind, he automaticallyexerts a moral demand upon the others, obliging them to value and treat him in the manner that
persons of his kind have a right to expect. He also implicitly foregoes all claims to be things he does not appear to be and hence foregoes the treatment that would be appropriate for such individuals. The others find, then, that the individual has informed them as to what is and as to what they ought to see as the “is” (Goffman, 1959, pp. 12-13).

Here, then, is a real dilemma for the person who is suddenly confronted with a new value of congruency. This new value may “ring true,” may be very appealing, and he may want to adopt it. However, those persons who surround him in his home, work, church, or community setting are not oriented toward this new value; they may expect him to perform as he has done in the past, and rewards will be contingent on a continuation of expected behaviors.

Thus the young husband who goes home and suddenly begins to behave congruently may be seriously violating a whole set of interaction expectations developed with his wife over a long period of time. It would be surprising if she began to respond positively from the first. What is necessary is the changing of the whole nature of the social system. The couple needs to develop together a whole new set of norms, roles, and expectations. Congruency theory would argue that the best way to begin this change is for the husband to begin the new behaviors and then work through the consequences with his wife. Other models of change would suggest that the change agent (the husband, in this case) should not impose change, but that change procedures be a collaborative effort agreed upon by both. It is not uncommon for a husband (or wife) who has attended a laboratory to try to get the spouse to attend also so that together they can begin a new pattern of behavior based on a common frame of reference. Many organizations use a laboratory experience for the same purpose: they send teams of managers to laboratories so that they can adopt new behaviors for the system based on a common new experience.

SUMMARY

In this paper I have been trying to look at some of the problems which a person who adopts a new value of congruency may expect to encounter. If these conditions are recognized, congruent behavior may be successful.

1. Congruency as a value is not the only value a person holds. To be congruent he must still behave consistently with old values or begin the process of reevaluation of his value system and begin to abandon or modify old values.
2. If one's values are in contradiction, it seems to me that the congruency stance is one effective method of beginning the process of personal value change. That is, one can begin to verbalize the ambivalence one feels and involve others in the process of examining the problems that result in the relationship.

3. Congruency does not mean that people cannot change. Certain values may support behaviors that we "like" better than others, even if we do not feel or behave in the desired way now. By expressing our current state of feelings and also our desires for improvement, we enter into a process that would seem to help us move toward the desired behavior goals.

4. Congruent behavior may take more skill than one now possesses. One possibility is that learning to be congruent via a descriptive rather than an evaluative process may result in the type of response more consistent with the end result wished for in the relationship.

5. There are many conditions in the social systems within which interaction takes place which may be resistant to new, congruent behaviors. These structured role definitions and expectations may need to be altered through a change process before congruency as a reciprocal process can be engaged in by all.

REFERENCES


Some Aspects of Truth in Contemporary Philosophy

Stephen L. Alley

The author believes that the question, "What is Truth?" is clearly basic to any educational philosophy which attempts to make prescriptions for educational practice. Therefore, he is concerned to investigate some of the more important work done in this area in recent years, though not to do more than that—not to attempt an answer to that perennially disturbing and age-old question. In this careful review of selected contemporary writings on the philosophy of truth, the author brings together several creative and interesting points of view for comparison.

Mr. Alley received his undergraduate training at the University of Utah first in chemistry. Since then he has become interested in educational administration, and more recently in the philosophy of education itself. He is an instructor in the college of education at Brigham Young University, where his major interest is the concept of truth as it applies to the aims of education.

The problem of truth has been with men since before Pilate asked Christ, "What is Truth?" Plato based his doctrine on what he regarded as a fundamental distinction between doxa, opinion, and episteme, certain knowledge. To take a pair of wildly dissimilar examples, the Eleatics before Plato and the medieval Christians long after him found themselves vitally concerned with the same problem.

With the development of modern science and the many schools of thought that turn upon it or claim alliance with it, the statement has been made¹ that the only rule to which the scientist has to submit is the specific system of logic and research which his culture recognizes as the most valid. This is the central contention of relativism, and it is the logical outgrowth of the recognition described

¹Ulrich (17, pp. 149-150).
by Ducasse, that the ultimate criterion of truth is the individual's own belief in the "self-evident" truth of a proposition. A distorted extension of this central statement is the biology of the Russian Lysenko (now apparently discredited by his superiors), which was "true" relative to a Marxist framework.

As I. L. Kandel has pointed out, any discussion of the nature of the state leads inevitably to some evaluation, some assessment of values and ends of political life, and to a consideration of the ways in which education is directed to their attainment. To what purpose is illiteracy eradicated in a country, unless the eradication is accompanied by an effort to cultivate judgment in the choice of what to read?

From the inevitability of the assessment of values follows the necessary inclusion of an examination of the nature of truth. If truth is completely relative, then the culture pattern and the nature of the state both are antecedent to, and take precedence over truth. The deliberate manipulation of education by those in control of the state, with regard only for the purposes of the state, must then be regarded as justifiable. Robert Ulich has declared\(^2\) that the relativist danger of dissolving everything in indecision and irreverence—it might be added, worse still, of subverting the ideal of freedom of thought—cannot be overcome by denying the obvious fact that man is indeed a creature of contingency, and that nearly all human activities are modified by the culture pattern. We would not, he says, ever escape from relativism if it meant merely the admission that man depends to a high degree on his environment, physically, mentally, and morally. The way out lies in the courageous admission that there are vision, faith, and purpose in human life as well as just actuality. Man transcends his environment, as well as exists within it.

In the words of Alexander Koyré, truth is spirit and freedom. It is not a secure possession of mankind. Every generation, as well as every individual, must win it for itself through its own exertion. The task is a difficult one in which the object must be kept in view; hence the need for a frequent critical re-examination of our notion of truth.

The purpose of this paper is to achieve a measurement of clarification of the general notion of truth by reviewing and comparing some of the writings in contemporary philosophy on the subject. Within its scope it is hardly possible, of course, to review the liter-

\(^2\)Ibid.
ature completely: the material presented is a selection from a more comprehensive research project.

I. Truth and Meaning

That truth and meaning are not the same may be demonstrated easily and simply by considering, to take an example from the current literature, the sentence "There are six species of animals on Mars." Each of the words in the sentence is meaningful, for they are correctly arranged grammatically; but the truth (or falsity) of the sentence is not established nor, at least at present, can it be. It may be asked what a sentence means if its truth or falsity cannot be established. The logical positivists of the Viennese circle answered the question by saying, "It means nothing." But that would not rob the present example of meaning, they would say, because only practical difficulties, i.e., our inability to get to Mars to count the species of animals, stand in the way of its being verified. It is, in principle at least, verifiable and therefore meaningful.

This positivist criterion of meaning, as McMurrin states it, may be formulated thus: all cognitively meaningful sentences, i.e., sentences which are either true or false, are either formal, as is the case with the propositions of logic and mathematics, which are either tautologous or contradictory and are without factual reference, or they are empirical, being capable in principle of experiential test, and thus assert something about matters of fact.4

Moritz Schlick, the leader of the Viennese positivist circle, put the matter this way, "Whenever we ask about a sentence, 'What does it mean?', what we expect is instruction as to the circumstances in which the sentence is to be used; we want a description of the conditions under which the sentence will form a true proposition, and of those which will make it false." This description is the meaning, and it is then determined by a set of rules which regulate the use of a word or combination of words. These rules, Schlick says, are the rules of the grammar of the words, using "grammar" in its widest possible sense.5

The conclusion to be drawn from this statement is that we must ultimately refer to ostensive definitions, which of course means reference to "experience" or "possibility of verification", in Schlick's terms, before we can understand any meaning. (Schlick points out that the appellation "experimental theory of meaning", often ap-

3Randall and Buchler (13).
4Jarrett and McMurrin (7, p. 363).
5Schlick (15).
plied to the view just expressed, is a misnomer, for it is no set of theoretical hypotheses, but a simple statement.)

Professor C. I. Lewis has voiced one objection to this criterion, when he pointed out that, if it is maintained that no issue is meaningful unless it can be put to the test of decisive verification (which cannot take place except in the immediately present experience of the subject), nothing can be meant except what is actually present in the experience in which that meaning is entertained.

Schlick's reply is that the conclusion does not follow from Lewis' premises, because the first premise assures us that the issue has meaning if it can be verified. Verification does not have to take place. Verification is a process, like hearing or feeling bored, and the sentence, "Verification can take place only in present experience" is nonsensical because it cannot possibly describe a fact. Further, Schlick asserts that propositions about future events can be verified by simply waiting for the events to happen. " 'Waiting' is a perfectly legitimate method of verification."

Dalkey has indicated that one objection to the empirical criterion of meaning (ECM) is based upon a misunderstanding of it. The objection states that it is necessary to know the meaning of a sentence in order to determine whether or not it is verifiable, or whether or not it is meaningful. Dalkey says that the ECM sets up a logical equivalence between being meaningful and being verifiable; there is no question of before and after. Again, Dalkey says, it is simply not the case that if a person "knows the meaning" of a sentence he thereby knows directly whether or not it is meaningful. Dalkey points out the difference between "knowing the meaning" of a sentence, and knowing whether it is meaningful. "To 'know the meaning' of a sentence is to know how to use it correctly, i.e., in a socially acceptable manner." Such social skill in word usage does not, he says, entail a recognition of the cognitive value of the sentence.

He suggests that a more expedient method of constructing a criterion of meaning would result from dealing with the way in which words are given a usage, rather than by using the rather troublesome term "verifiable", a term which, he says, involves several psychological and sociological puzzles which are irrelevant to the design of a criterion of meaning. The method makes use of the simple device of choosing a set of words which are obviously mean-

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9Lewis (10).
1Dalkey (5).
ingful in the sense in which we are interested and saying that any other term is meaningful if it has the proper relation to one or more of these "touchstone" words, which are those which can be learned on the basis of direct experience.

This is the method used by Schlick and also by Carnap in his article "Testability and Meaning".

Norman Dalkey points out that the success a criterion achieves in making the language a more efficient instrument will determine the final choice of the criterion. He opens another field for discussion when he suggests that vagueness might not be a degenerate state of language. It may be useful and even essential, and Dalkey points to the necessary vagueness of terms used to describe quantum mechanics. (Another case in point is the Law of Disorder of probability, as treated by George Gamow in some of his popular writings.) According to Dalkey, the unkempt word may keep our meanings warmer than the precisely tailored one. "For different aims we might expect different criteria to be appropriate. This seems to be the case with respect to the criteria used for the natural languages," i.e., natural, as opposed to the systematic language, in which the parts of a theory are expressed. In the natural languages and in the varying uses to which they are put, we have of course varying degrees of meaningfulness, a virtual continuum; as Dalkey says, there seems to be no particular point in drawing a line across the series and saying that beyond this knife edge lies the darkness of utter nonsense.

Felix Kaufmann⁸ observes that certain considerations lead us straight to the issues of the relations among meaning and verifiability and testability. In positivistic doctrines, it has been duly emphasized that philosophy cannot legislate to science by prescribing rules of scientific procedure which are purportedly established by pure intuitive reason as self-evident truths. The rules of scientific procedure are established rather by the pragmatic nature of science itself. The criticized view has its chief root in the failure to distinguish sharply between deductive logic in the strict sense and the logic of scientific procedure. Proof by pure reason, i.e., clarification of the meaning of propositional functions, is a way of "justifying" logical rules, a way not applicable to the rules of empirical procedure, as Hume has shown. Nor is it correct to say, Kaufmann continues, that the rules of procedure made explicit by such analyses as Hume's are descriptive of the actual procedure of the scientist.

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⁸Kaufmann (8).

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Rather, these rules are the criteria in terms of which scientists distinguish between correct and incorrect scientific decisions. Scientists seek, of course, to comply with these rules, but more or less frequent aberrations leave their validity untouched. The important point is their recognition as standards of criticism.

The issue, according to Kaufmann, is this: on the one hand, the meaning of a synthetic proposition is not logically prior to the criteria of its verification in the sense that these could be deduced from the meaning. If this were so, Kaufmann writes, we could indeed establish the rules of verification on ultimate grounds, as we can the rules of the syllogism. On the other hand, meaning is certainly in a sense prior to verification or verifiability. In asking whether it is correct to accept a proposition, we consider that proposition as given. We cannot formulate a problem of verification without referring to the meaning to which the verification relates.

Naturally, the question arises, "How are meanings given?" Kaufmann admits that this question indeed indicates profound problems, the problems of the "constitution" of meanings, and he refers the reader to Husserl's later phenomenological works for the treatment of them. But, he insists, such problems have no place in methodology, where objective meanings are presupposed as "already" constituted. "What matters is not the meaning of 'meaning', but a sharp distinction between problems that are exclusively concerned with meaning. . . ."

II. TRUTH AND VERIFICATION

In his article, Kaufmann briefly examines the meaning of "truth" as related to scientific procedure. Truth and falsity, he says, are taken in traditional logic to be properties of propositions, each of which possesses one and only one of the two truth-values "true" and "false". This view, of course, is that of Aristotle, who declared that only such sentences are propositions as have in them either truth or falsity. (De Interpretatione, I, 4). To verify a proposition must mean, according to this view, to acquire the knowledge of its truth. To falsify it must mean to acquire knowledge of its falsity. Of course, our knowledge of these properties does not establish them; they are "independent" of our knowledge. This seems, at first glance, to explain why logic can analyze the truth-relations between synthetic propositions without examining whether they are true. Closer analysis, however, reveals that the so-called truth-relations between synthetic propositions are not concerned at all with their
truth or falsity, but merely with internal relations (logical inclusion or exclusion) of propositional meanings, i.e., of restrictions of the frame of probabilities irrespective of any actualization.

Such recognition of the proper function of truth-relations of synthetic propositions seems vital to the validity of scientific procedure.

In discussing the issue of whether "truth" is to be defined in terms of scientific procedure, Kaufmann criticizes the realists for their confusion of the terms "logical independence" (or "dependence") and "causal independence" (or "dependence"). "It is absurd to maintain, the realists would argue, that truth should depend on knowledge, e.g., that Kepler's laws of planetary movements should not have been true before Kepler formulated them." The argument at first sight is convincing, says Kaufmann, but it does not prove that the meaning of "truth" is (logically) independent of the meaning of verification. Instead, it only shows that the historical fact of accomplished verification is not among the "truth-conditions", i.e., the criteria of (possible) verification.

Kaufmann illuminates his point further by referring to a situation where the occurrence of an event may causally depend upon whether it had been predicted and further upon whether such prediction may have been warranted. Such a situation might be the influencing of the price of a commodity by a prediction and an explanation of the factors on which the prediction had been founded. Thus the truth of the (conceivable) prediction may causally depend upon whether it was actually made and substantiated if we understand by its "truth" its confirmation by actual observation. But, writes Kaufmann, if we understand "truth" in this way, we have established the observational test as a "truth-condition"; i.e., we have defined "truth" in terms of this test, and then we cannot say that the fact that the prediction has been actually made and warranted is a "truth-condition" for it. We shall be more ready, Kaufmann thinks, to recognize that "truth" is not unrelated to verifiability and hence to rules of scientific procedure when we have disposed of the ambiguities that lie in the prevailing confusion between matters of fact and relations of meanings.

From the argument that a statement is true or false irrespective of time, it seems to follow that "truth" and "falsity" have a logical structure fundamentally different from that of verification and falsification respectively, and cannot, therefore, be defined in terms of them. Doubting the conclusiveness of the argument, Kaufmann
asks, “Can we really say that 'true' and 'verified' are fundamentally different concepts? Would not this imply that the idea that science aims at finding truths is altogether erroneous? And is it essential for a true proposition to be able to withstand all controls?”

In order to dispose of the paradox which arises as a result of the foregoing discussion, Kaufmann proposes the following definitions: “We mean by a true proposition one that could be accepted if we had all possible knowledge which is relevant (in terms of the rules of procedure) for the decision whether it can be accepted, and that once accepted, could withstand all possible controls.” In such a definition, the concept of truth is related to an idealized potential process of verification. The belief that propositions can be found which would be able to withstand all possible control is the “belief in truth”. It can be neither ultimately confirmed nor ultimately refuted. Yet, Kaufmann cautions, if the doctrine of skepticism pretends to have refuted the belief in truth because of its stress on the impossibility of ultimate confirmation, it is wrong, and furthermore it is wrong if related to analytic propositions.

In a chapter on empirical knowledge and certainty, Arthur Pap9 summarizes the views of those philosophers, mainly followers of Wittgenstein, who maintain that the fallibilist thesis of the inevitable uncertainty of all empirical knowledge is trivial.

Pap thinks that the proper question to be addressed to the “fallibilists” is this: “Just under which conditions would I have conclusive evidence for my empirical belief?” If the fallibilist should give the probable reply, “However numerous the tests may be by which you partially verified your belief, there is always further empirical evidence that is relevant to its truth or falsity,” he would only be saying in another way, Pap points out, that a complete verification of an empirical proposition would involve an infinite program of testing. To use Pap’s example, every historical event propagates effects throughout an infinite future, and every such future effect is relevant to the truth or falsity of the statement that the event actually occurred. Thus we come to the conclusion that if “certain” means “completely verified”, again the fallibilist principle is unassailable on account of being definitional, but it is trivial to say that a never-ending process never ends.

Pap’s discussion, emphasizing as it does that the problems to be solved are problems of definition and analysis, is clarifying. But Pap insists that thus locating the problems is not to say that the fal-

9Pap (12).
libilists have made a trivial point. Although it is true that the proposition "no empirical statement is conclusively verifiable" is either false or else analytic, it is still a worthy achievement to articulate the sense of "conclusively verifiable" in which the proposition is analytic, because thereby one clarifies the difference between an empirical statement and a logico-mathematical statement.

For Hans Reichenbach,¹⁰ truth is the idealization of a weight of high degree, using the concept of weight in its probabilistic, statistical sense. Such a concept follows developmentally from C. S. Peirce, who considered truth to be the "concordance of an abstract statement with an ideal limit towards which endless investigation would tend to bring scientific belief." Peirce envisaged the "endless investigation" being undertaken by a community of scientists who would know full well that the investigation would be endless, and that the limit permitting the concordance would be ideal, but who would continue their efforts in "the cheerful hope" that they would meet with success anyhow—a rather apt description of the present state of science and philosophy.

Reichenbach asserts flatly that there are no propositions at all which can be verified. Earlier in the same work, he has postulated three predicates of propositions: meaning, truth-value, and weight; and he has identified one apparent difference between truth-value and weight. The difference is this: "whether a sentence is true depends on the sentence alone, or rather on the facts concerned. The weight, on the contrary, is conferred upon a sentence by the state of our knowledge and may therefore vary according to a change in knowledge. . . . Truth-value, therefore, is an absolute predicate of propositions, and weight a relative predicate."

Analyzing the presupposition that propositions about concrete physical facts (which he calls "observation" propositions) are absolutely verifiable, he shows that this conception is untenable and that even for such statements only a weight can be determined. Statements concerning impressions, "impression propositions", are likewise shown to be incapable of absolute verification and also to be judged only by the category of weight. "Thus there are left no propositions at all which can be absolutely verified." And thus the predicate of truth-value of a proposition is a mere fictive quality. All propositions are indirect and never exactly verifiable; the predicate of weight entirely supercedes that of truth-value; it remains our only measure for judging propositions. Our speaking of the truth-

¹⁰Reichenbach (14).
value of a proposition is only a schematization, because we regard a high weight as equivalent to truth and a low weight as equivalent to falsehood. The intermediate domain is called "indeterminate". The conception of science as a system of true propositions, Reichenbach firmly avers, is nothing but a schematization.

This conception, he reminds us, is a useful approximation, but like all approximations is permissible only within a certain domain of application. Thus for a careful epistemological inquiry, it will not do at all, and leads to grave incongruity with the actual situation. Furthermore, in the hands of what Reichenbach calls "pretentious and consistent logicians", this schematization has produced serious misunderstandings of science and has led to grave distortions in the interpretations of scientific methods. It has also been abused, Reichenbach claims, as a support for a radical misinterpretation of the very nature of science.

Reichenbach thinks his description applies to the positivist criterion of meaning (see section I, supra) which makes meaning dependent on verifiability. So long as the demand of verifiability is not overstrained (Pap insists on the same condition when he emphasizes the importance of "verifiable in principle"), that is, so long as a highly probable proposition is considered as true, the positivistic theory is useful. "But with the introduction of higher pretension into the methods of analysis, a great number of the propositions of science are pointed out as unverifiable; the positivistic theory of meaning, then, expels these propositions from the domain of meaning, and substitutes for them other sentences which, for any unprejudiced eye, cannot perform the functions of the condemned propositions."

Reichenbach remarks the fact that, although this procedure is carried through with more or less consistency, none of its representatives has had the courage, as yet, to carry his principle through to its ultimate consequence and to admit that there are no meaningful sentences at all left in science.

It was to escape such criticism leveled at them by Reichenbach that Schlick and others of the positivists modified their earlier extreme position. The positivistic theory of meaning emphasizing that meaningful statements are in principle verifiable approaches the probabilistic theory of meaning of Reichenbach, in which verification is to denote only the determination of a degree of probability.

Kaufmann agrees with Reichenbach on the matter, saying that knowledge, whether perfect or imperfect as to invariable truth, of
synthetic propositions is unobtainable, not because of the limitations of human knowledge, but because the conception of such knowledge involves a contradiction in terms.

Rudolf Carnap has made a distinction between truth and perfect knowledge in an argument which is presented elsewhere in detail. Reichenbach, Kaufmann, and Neurath all infer, from the impossibility of absolute certainty, that the semantical concept of truth should be abandoned. This inference, says Carnap, presupposes this premise: "A term (predicate) must be rejected if it is such that we can never decide with absolute certainty for any given instance whether or not the term applies." But not even Reichenbach, Kaufmann, or Neurath believe this. Carnap advances in its place another premise, according to which "true" is likewise a legitimate scientific term.

Carnap would thus preserve the distinction between "true" and "confirmed", probably reserving for the latter the meaning, "estimated as true by \( X \) at time \( t \)." He declares that the confusion of "true" with "confirmed" has been brought about because it has been considered altogether impossible to establish an exact and consistent definition of truth (in its customary meaning). He points out, too, that this confusion leads to the necessary abandonment of the principle of the excluded middle, which maintains for every statement that either it or its negation is true.

In another article, Carnap\(^2\) makes the distinction more explicit and refers to the semantic concept of truth to make his meaning clearer. He insists, in opposition to Kaufmann, that we must distinguish between "true" on the one hand and "known to be true", "verified", "established", "highly confirmed", "warranted as assertible", etc., on the other. "The concept variously expressed by the latter phrases and similar ones may imply truth but it is not identical with truth." He says the semantical concept of truth has nothing to do with the idea of perfect knowledge or absolute certainty. He quotes Kaufmann, "There is no domain of legitimate application for a general concept of truth which would encompass a) logical implication, b) warranted assertibility, and c) total coherence—or even any two of these terms." Going beyond Kaufmann, Carnap says emphatically that the semantic concept of truth does not encompass any one of these three concepts—although his statement seems unclear as it applies to logical implication. "The truth of a sentence means simply that the facts are as described in the sentence,

\(^{11}\)Carnap (4, p. 120 ff.).

\(^{12}\)Carnap (3).
whether anybody knows it or not. The question as to how we are to find out whether the facts are as described is a different matter; this question is to be answered by stating criteria of confirmation."

Carnap agrees with Kaufmann that the use of the concept of truth is not necessary (however helpful) either in deductive or in inductive logic, because the basic concepts of these two fields (logical implication and degree of confirmation, respectively), can be defined without referring to truth. Kaufmann prefers to avoid the concept of truth in logic in order to preserve the conceptual purity of deductive logic. Carnap does not object, but indicates that he feels there is "no compelling reason for requiring others to follow the same ascetic procedure", if they feel the use of the concept would be convenient.

Ernst Nagel\textsuperscript{13} objects to the definition of true proposition by Kaufmann, which has been set forth above. The objections of Nagel are threefold:

1. It is not clear how Kaufmann can establish the necessary truth of the principle of excluded middle and other logical principles, if "true" is specified in terms of acceptability. Carnap (above) pointed out that the confusion of "true" with "confirmed" has led to essentially the same result, the abandonment of the principle.

2. The acceptability of a proposition for Kaufmann is always relative to a system of rules of procedure. It follows that whether a given proposition is true or not depends on what system of rules are implicitly presupposed in instituting controls for it. Is a proposition true, Nagel asks, relative to a Thomist set of controls, even if it is false relative to the controls of modern science?

3. The truth of a proposition is specified in terms of the completion of a theoretically endless process. Accordingly, truth is simply an ideal of inquiry, and a synthetic proposition can never be established as true. But Nagel, like G. E. Moore, accepts the point that "I know S" (where "S" is any proposition) logically entails "S is true." (This may be seen from the fact that if S is not true, then one does not know S.) In consequence, Nagel says, if Professor Kaufmann were right in his contention that a synthetic proposition can never be established as true, we would never know anything.\textsuperscript{14} To propose that we "know" something with probability, in the view of Nagel is to propose a new usage for the verb "to know".

\textsuperscript{13}Nagel (11).
\textsuperscript{14}Dr. Israel Scheffler thinks that this does not necessarily follow, because the Moore-Nagel entailment above does not imply the following one: "I know S, therefore S is now established as true."
Arthur Pap\textsuperscript{15} joins Nagel and Carnap in desiring to keep a place for the semantical concept of truth. "Why," he asks, "should one conclude from the fact that it is always possible to doubt whether a given concept applies in a given case, that the concept is illegitimate or inadmissible?"

III. THE SEMANTIC CONCEPT OF TRUTH

The logician Alfred Tarski\textsuperscript{16} attempts to form a definition of truth which will be formally correct and materially adequate. The conditions governing the formation of the definition may be outlined thus:

1. It is most convenient to apply the term "true" to sentences. (We must always relate the notion of truth to a specific language; for it is obvious that the same expression which is a true expression in one language can be false or meaningless in another.) This does not exclude the possibility of the extension of the term to other objects.

2. The definition should comprehend and conform to other notions of truth, such as (1) the Aristotelean definition, "To say of what is that it is not, or of what is not that it is, is false; while to say of what is that it is, or of what is not that it is not, is true"; (2) the correspondence theory that the truth of a sentence consists in its agreement with (or correspondence to) reality; (3) the concept of designation, which is that a sentence is true if it designates an existing state of affairs.

Tarski's criteria of the material adequacy of a definition are (1) the sentence "Snow is white" is true, if, and only if, snow is white. In general, this schema (T) X is true, if, and only if, p is called an "equivalence of the form (T)." (2) We shall call a definition of truth "adequate" if all equivalences of the form (T) follow from it. It should be emphasized that neither the expression (T) itself (which is not a sentence but only the schema of a sentence) nor any particular instance of the form (T) can be regarded as a definition of truth. The name "the semantic conception of truth" is proposed by Tarski for the conception which has been outlined.

Tarski is quick to point out that the problem of the definition of true obtains a precise meaning and can be solved in a rigorous way only for those languages whose structure has been exactly specified. For other languages—thus for all natural or 'spoken' languages—

\textsuperscript{15}Pap (12, p. 355).
\textsuperscript{16}Tarski (16).
the meaning of the problem is more or less vague, and its solution can have only an approximate character.

In order to discuss the structure of the specified language, Tarski advances the elemental notions of the object-language and the meta-language. The object-language is the language which is "talked-about". The definition of truth applies to the sentences of this language. The meta-language is that in which we "talk-about" the first language, and in terms of which we wish to construct the definition of truth for the first language. If we wish to "talk-about" our meta-language, we must go to a higher meta-language, and thus we arrive at a whole hierarchy of languages.

Euryalo Cannabrava\(^\text{17}\) differs sharply from Tarski and all others who assert an involvement of truth with language or context. He says bluntly that truth is simply objectivity, disclosed in the formal structure of a relational implication, as well as in any correct description of a state of affairs. It is independent of any linguistic or contextual meaning.

He is markedly impatient with American philosophers who attempt to replace his "objectivity" with any sort of subjective definition. He is especially scornful of those who use symbolic logic "to give the appearance of truth to what is actually wishful thinking at its worst." He thinks that to say, for instance, that scientific statements are right in so far as they are agreed upon by competent observers must be considered an absurd proposition, in spite of our ability to reinforce it by the appearance of consistency and logical truth. No symbolic device, he says, can change a foolish statement into a sound one.

But Cannabrava’s voice is a lone one.

The notions of designation and satisfaction are helpful in furthering the clarification of the semantic concept of truth. Pap points out\(^\text{18}\) that it is possible to know what an expression designates without knowing whether a given sentence containing the expression is true; but, on the other hand, it is impossible to determine the truth-value of a sentence without knowing what its constituent expressions mean. This, then, is the reason why the concept of truth, semantically defined, logically presupposes the fundamental semantic concept of designation.

Satisfaction is a relation between arbitrary objects and certain expressions called "sentential functions". Given objects satisfy a given function if the latter becomes a true sentence when we replace

\(^{17}\text{Cannabrava (2).}\)

in it free variables by names of given objects; e.g., "X is white" is a sentential function satisfied by snow, since the sentence "snow is white" is true.

Concerning the declaration of Pap, that it is impossible to determine the truth-value of a sentence without knowing what its constituent expressions mean, Scheffler has observed that it may be wrong. For, he says, if "P" and "Q" are significant expressions, and if "P" is true, then the sentence "P or Q is true", is true, and we can determine this without knowing what the constituents of Q designate. The declaration of Pap holds true in this case only if Scheffler's example is regarded as a molecular sentence to be broken into its atomic parts, of which the sentence "Q is true" is one.

Considering the notions of designation and satisfaction, together with Tarski's criteria, we arrive at Tarski's definition of truth. It appears that for sentences only two cases are possible: a sentence is satisfied either by all objects or by no objects. Thus Tarski defines truth and falsehood simply by saying that a sentence is true if it is satisfied by all objects, and false otherwise.

A summary of the semantic concept of truth includes the following points:

1. The structure of the language inevitably influences the sense in which truth is used.

2. Assumptions leading to contradictory sentences must be examined. This point may be illustrated by the antinomy of the liar, which Tarski thinks it dangerous to treat as a joke or as a sophistry. Here is the antinomy:

   (1) The sentence written here is not true. S.

   (2) "S" is true if and only if the above sentence is not true, according to the schema (T).

   (3) Thus "S" is true, if, and only if, "S" is not true.

The assumptions leading to the contradiction are in general two-fold: (1) the language in which the antinomy is constructed contains, in addition to its expressions, the names of those expressions as well as semantic terms such as the term "true" referring to sentences of this language. We have also assumed that all sentences which determine the adequate usage of this term can be asserted in the language. A language with these properties is called by Tarski "semantically closed". (2) In this language the ordinary laws of logic hold.

3. The semantic conception of truth thus comes to this, in Pap's terms: "[p] is true" is synonymous with the simple assertion of [p].

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"Thus to say it is true that Horowitz is a great pianist is the same as asserting that Horowitz is a great pianist, and to say of this proposition that it is false is to assert its denial, 'Horowitz is not a great pianist.'" Again we could assert the semantic conception of truth as an equivalence: "for every \( p \), \( p \) is true, if and only if \( \neg p \).

### IV. Logical Truth

A. J. Pap has observed that logically truths are only practically irrefutable by experience, in the sense that, when reconciling prediction and observation means abandoning a logical principle, the price is too high. This may be seen from Pap's example, in which the supposition is made that we abandon the logical principle, "Any statement which is implied by true premisses is true," because in a given case a conclusion derived from premisses firmly believed to be true turned out to contradict observed facts.

A. J. Ayer's empiricism\(^\text{10}\) is representative of that which rests upon purely logical considerations. He makes it clear, in calling himself an empiricist, that he is not avowing a belief in any of the psychological doctrines commonly associated with empiricism, holding that, even if these doctrines were valid, their validity would be independent of the validity of any philosophical thesis and could be established only by observation. He attempts to deal with the objection that is commonly brought against all forms of empiricism; namely, that it is impossible to account for necessary truths on purely empiricist principles. In so doing he presses the point that every consistent empiricist must accept the principle that all propositions, not only general propositions, which deal with factual content are at best only probably hypotheses, and that none can ever become logically certain. The point has already been discussed above and need not be elaborated here, except to remark that Ayer adds that the fact that the validity of a proposition cannot be logically guaranteed in no way entails that it is irrational for us to believe it. On the contrary, what is irrational is to look for a guarantee where none can be forthcoming, to demand certainty where probability is all that is obtainable.

Ayer cites Hume's conclusive demonstration, already alluded to above, that no general proposition whose validity is subject to the test of actual experience can ever be logically certain, for the fact that an empirical law has been substantiated in \( n-1 \) cases affords no logical guarantee that it will be substantiated in the \( n \)th case also.

\(^{10}\)Ayer (1).
no matter how large we may take \( n \) to be. Ayer remarks that there is nothing perverse or paradoxical about the view that the "truths" of science and common sense are hypotheses; and consequently the fact that empiricism involves this view constitutes no objection to it.

Ayer admits that where the empiricist does encounter difficulty is in connection with the truths of formal logic and mathematics. Because no proposition which has a factual content can be necessary or certain (if empiricism is correct), the empiricist must deal with the necessary and certain truths of logic and mathematics in one of the two following ways: he must say either that they are not necessary truths, in which case he must account for the universal conviction that they are; or he must say that they have no factual content, and then he must explain how a proposition which is empty of all factual content can be true and useful and surprising.

Having phrased the problem so, Ayer declares that the empiricist, if neither of the two courses prove satisfactory, must give way to rationalism and admit that there are some truths about the world which we can know independently of experience; that there are some properties which we can ascribe to all objects even though we cannot conceivably observe that all objects have them. We shall have to accept it as a mysterious and inexplicable fact, Ayer says, if the empiricist cannot solve his problem, that our thought has this power to reveal to us authoritatively the nature of objects which we have never observed, or else we shall have to accept the Kantian explanation, which only pushes the mystery a stage further back.

In attempting to make good the empiricist insistence that there are no "truths of reason" which refer to matters of fact, Ayer rejects Mill's contention that the propositions of logic and mathematics have the same status as empirical hypotheses, or that their validity is determined in the same way. He maintains instead that "they are independent of experience in the sense that they do not owe their validity to empirical verification."

Ayer makes these additional points: (1) the terms "true" and "false" connote nothing, but function in the sentence simply as marks of assertion and denial. And in that case there can be no sense in asking us to analyze the concept of "truth". (2) There is, then, no problem of truth as it is ordinarily conceived. The traditional conception of truth as a "real quality" is due, like most philosophical mistakes, to the failure to analyze sentences correctly. (3) No synthetic proposition which is not purely ostensive can be logically indubitable, but we cannot admit that any synthetic proposition can be purely ostensive. (4) The preceding point must follow
from the fact that one cannot, in language, point to an object without describing it.

Wilbur M. Urban\textsuperscript{20} declares, in direct opposition to Ayer's position, that the tacit assumption underlying all meaningful discourse is that the terms "true" and "false" do connote something. It is also the presupposition of such discourse that truth connotes correspondence in some sense and to some degree—the classical conception of truth. He writes that the dialectic of meaning leads to the conception of the primacy of truth. But the notion of truth, when examined, exhibits a similar dialectic which appears to lead to the notion of the primacy of meaning. By a dialectic immanent in the truth-notion, it outruns its primary meaning, and the notion of truth becomes subordinated to that of meaning. One way of avoiding this situation is to deny the necessity of giving any meaning to the truth-notion, the way taken by Ayer, and a position popular with the logical positivists.

Urban admits that the Ayer thesis is psychologically understandable, yet he denies the possibility of maintaining such a thesis. It is understandable through this reasoning: if the meaning of any word is in reference to a sensuously observable entity, then the word "truth", which of course has no such reference, is meaningless except emotively. It is but the natural consequence of extreme nominalism—which, as Urban quotes Dewey, "makes non-sense of all our meanings." Surely, writes Urban, no one would make the assertion of the Ayer thesis unless he believed it to be true, and truth thus applied must have some connotation. "It is just as certain that if I do not accept this assertion as true (as I certainly do not) that the one who makes it is bound to tell me what he means by truth here; otherwise all argument comes to an end, and his assertion is dialectically meaningless."

Admitting that the "copy theory", or correspondence theory of truth, has been greatly criticized, Urban uses it to advance his general argument, insisting that, if it is not the final notion, correspondence is still the initial notion of truth, and this notion sets in play a dialectic of truth which is significant for the general problem.

V. CONCLUSION

C. J. Ducasse,\textsuperscript{21} in attempting to define the ultimate criterion of truth, calls attention to the fact that the mind seems to arrive

\textsuperscript{20}Urban (17).

\textsuperscript{21}Ducasse (6).
at a point where it must accept, willingly or not, the ultimate recognition of truth as an individual value-judgment. This is highly unsatisfactory, seeming to lead to complete relativism, yet no way out seems possible. In setting up criteria by which truth may be evaluated, the mind must recognize the validity of the criteria. If secondary criteria are set up, the final step of recognition of validity has only been postponed.

Descartes was guided by "what seemed indubitably clear" to his mind. Peirce, in demolishing Descartes' view, demonstrated at the same time its truth in his own acceptance of his own ideas. In these times, Ducasse has propounded the Cartesian criterion. He explicitly asserts that "self-evidence" is the ultimate "criterion of truth".

In this paper the author has no wish to read into contemporary writings similarities which do not exist, nor to minimize essential differences. However, a close study of the few works that have been reviewed reveals that many of the differences are superficial and exist in the structure of language rather than in thought; that is, many of the difficulties seem to be semantic rather than logical. Most contemporay philosophers are reluctant to approach the study of the concept of truth from a single viewpoint. Empiricists acknowledge the place of intuition in the acquisition of knowledge, though using their own terminology and calling it, as Einstein did, a fact of experience; rationalists are ready to incorporate into their own thinking empirical contributions. The analyses, through the emphasis they have placed on language, have focused attention on meanings and the necessity to strip language of its ambiguities.

The whole enterprise, the passionate striving after truth, has taken on the character of Peirce's cooperative enterprise by a community of philosophers, actuated by "the cheerful hope". Its history has been described by Helmut Kuhn.22 "It was in setting out to its boldest venture, the quest of the ideal of the Good, that the human intellect ... chanced upon the boundaries of knowledge which circumscribe human or finite wisdom." Its future must be that of a process of constant check and correction. By its own nature the search for truth is self-corrective.

REFERENCES


22Kuhn (9).


Sintered Diamonds

H. Tracy Hall

ABSTRACT. Diamond powder is rapidly sintered into molded shapes at a pressure of about 65 kilobars and a temperature of 2500° Kelvin. Other conditions of pressure and temperature are also suitable. The product compares favorably with natural carbonado in its properties.

A dozen years ago, I discussed the desirability and possibility of preparing a carbonado-type substance by bonding diamond particles together under conditions of high pressure and high temperature (1). I now report procedures for accomplishing this.

Natural carbonado is a rare polycrystalline form of diamond found primarily in Brazil. Because of its toughness it is sometimes used in diamond drilling bits for penetrating hard rock formations. Carbonado would have many additional uses if it were more readily available and if it were less difficult to shape. It has no regular cleavage, as does ordinary diamond, and it is also much more difficult to cut and polish. These problems are overcome in the synthetic carbonado, because it can be formed to shape in a mold. Several sintered diamond articles, including a cylinder with an axial hole strung on a wire are shown in Fig. 1.

The synthetic material is tough. It cuts, indents, scratches, abrades, and wears well. Compressive strengths ranging up to 58 kb and densities up to 3.48 g/cm³ (the theoretical density of single crystal diamond is 3.51) have been measured.

I have experimentally delineated practical pressure and temperature fields, wherein pure diamond powder can be sintered within times ranging from several days down to about a second. This is illustrated by Fig. 2, where line 1 separates the thermodynamic region of stability for diamond (above line 1) from that of graphite.


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Fig. 1. Sintered diamond shapes (background: 5 squares per centimeter).

(below line 1). Line 3 indicates a somewhat arbitrary lower temperature limit for obtaining a usable sintered body. Sintering times at this temperature are several days.

Line 2 delineates a practical region of stability where diamond powder is kinetically stable (metastable) with respect to conversion to graphite. This region is located between lines 1 and 2. The thermodynamic equilibrium (line 1) is, of course, time-independent. However, metastability (line 2) depends on time. The line shown is that determined for a temperature holding time of 30 minutes. For other heating times, the shape of the line is similar, but its position is shifted. The diamond powder is first subjected to pressure. Temperature is then applied and held constant for 30 minutes, after which the sample is quenched to room temperature before pressure is released. A longer temperature holding time reduces the area between lines 1 and 2, whereas a shorter time increases the area. Line 2 is also affected somewhat by diamond particle size, impurities, surface characteristics, and the surrounding atmosphere. A distinctive feature of line 2 is the large change in slope occurring near a pressure of 35 kb and a temperature of 1400°K.

Diamond powder can be sintered into a coherent body without any transformation into nondiamond forms of carbon in the region
Fig. 2. Diamond sintering regions. Line 1 is the thermodynamic equilibrium boundary for diamond and graphite. Line 3 is a somewhat arbitrary minimum practical sintering temperature for diamond particles. Line 2 is the metastability line for conversion of diamond powder to nondiamond carbon. The location of line 2 depends on time, but the form of the curve for other time periods is similar to the 30-minute curve which is shown.

between lines 2 and 3. It is important to note that although this region includes and overlaps the region of diamond thermodynamic stability, it is not necessary to work within the region of thermodynamic stability to produce sintered diamond.

At a given pressure, sintering is most rapid at a temperature near line 2. Sintering time decreases rapidly with increasing temperature; consequently, the shortest sintering time is achieved at the highest pressure. It is possible to obtain a well-sintered product in only a few seconds at 85 kb.

For the particular heating time for which line 2 has been determined and a given pressure, line 2 determines the highest temperature that can be used to produce sintered diamond without any transformation to nondiamond carbon. Sintered diamond made under these circumstances is white or translucent in color.

Contrary to my former expectations, a sintered diamond product can be made at temperatures higher than those designated by line 2. At these temperatures some of the diamond will transform to nondiamond carbon. This product is black in color.

Therefore, careful regulation of temperature about those designated by line 2 can yield a product ranging in color from white
through gray to black, and synthetic carbonado of good quality can be produced throughout this color range. Debye-Scherrer x-ray diffraction patterns of the black product show lines characteristic of nondiamond carbons in addition to the diamond lines. The black product is a fair electrical conductor, whereas the white product is insulating. There has been some surface transformation of the diamond particles into nondiamond carbon in the black product. But when the amount of transformation is carefully controlled, a well-bonded black product with excellent physical properties can be produced. The nondiamond carbon is quite effective in bonding the mass of particles together. It always requires a longer sintering time and lower temperature to make an acceptable white product. Increasing the amount of diamond decomposition can produce a soft product that will wear away more rapidly in abrasive use. The softness and accompanying rate of wear can be controlled by manipulation of the pressure and temperature time variables.

The sintered products made from diamond powder thus far discussed are self-bonded. That is to say, the agencies responsible for bonding the mass of particles together come from the diamond itself. It is also possible to produce a synthetic carbonado from diamond powder, wherein a bonding agent or binder is added to the diamond powder. I have found that powders of hard refractory substances, including borides, carbides, nitrides, and oxides, will serve as suitable binders.

The time considerations for pressure and temperature discussed for self-bonded diamond also apply when binders are used.

Two examples for the preparation of synthetic carbonado are given below.

1) A cubic (hexahedral) press was used to generate pressure. The square faces of its tungsten carbide anvils were 0.953 cm on edge. The cubic pyrophyllite sample cell was 1.19 cm on edge and contained a graphite sample tube with sample space 0.254 cm in diameter by 0.475 cm long. This space was filled with natural diamond powder (1 to 5 μm particle size) and was heated by an electric current passed through the graphite tube. Pressure was increased to 85 kb (room temperature calibration; no correction for elevated temperature) then temperature was increased to about 2440°K and held for 3 minutes. Heating current was then switched off, whereupon the sample cooled to near room temperature in about 10 seconds. Pressure was released, and a near-white synthetic carbonado was removed. It was cylindrical in form, being 0.218 cm
in diameter by 0.376 cm long; it weighed 0.25 carat (5 carats = 1 g). Its pycnometric density was 3.48 g/cm³.

2) A cubic press with anvils 1.27 cm on edge was used. The heater and sample container loaded with 1- to 5-μm diamond particles was a molybdenum tube with interior sample space 0.775 cm in diameter by 0.525 cm long. This was centered within a pyrophyllite cube 1.58 cm on edge. Pressure was 65 kb (room temperature calibration) and temperature was held at about 2500°K for 21 seconds. The product was a dark steel-gray cylinder 0.498 cm long by 0.643 cm in diameter, weighing 2.5 carats and having a pycnometric density of 3.09 g/cm³.

If, in a run like example 2 above, some of the 1- to 5-μm diamond powder is replaced with 5- to 40-μm particles, the product density can be increased significantly. Synthetic diamond powders produced by explosive means as well as by static pressure methods can also serve as starting material for the production of synthetic carbonado.

REFERENCE

American Teen-Agers
of the 1960's—
Our Despair or Hope?

Blaine R. Porter

Teen-agers of the 1960's are growing up in the midst of the greatest scientific breakthrough in history. Such areas as education, employment, goals, values, and morality present problems of an unprecedented nature. This generation of teen-agers faces the challenge of making wise choices regarding power, money, sex, prejudice, and their role in the world. They must find a moral code that will suit their needs in the society in which they live. In order to successfully meet the challenges which face them, our teen-agers need to have parents, adults, and community and national leaders who can be models and heroes to them and who can set an example of fairness, morality, and inspired leadership. In spite of the serious problems and challenges which presently face us, this generation of teen-agers may be one of the most trustworthy and capable we have had in a long time.

Doubt, anxiety, cynicism, and indifference still permeate much of our thinking about adolescents. This appraisal can partially be explained by the adverse publicity and reporting of teen-age behavior which have appeared in the public press during the last several years.

I do not believe that the basic needs, drives, fears, and feelings of teen-agers are materially different today than they have been for previous generations. On the other hand, the world in which we live and the probable world of tomorrow are so different and likely to be so different that problems and challenges facing the present generation of teen-agers are unique in many respects.

Today's younger generation has grown up in the midst of the greatest scientific breakthrough in history, one which simultaneously shrank and extended the ordinary man's world almost beyond recognition. When we consider that some 90 percent of the research scientists who have ever lived are still alive today, and that about half the research and development money spent in all the history of the United States was spent in the last eight years, we can be sure that this technological acceleration is by no means an end. These expenditures are going to continue going up, with increasing effects on our daily lives. The great question is: What kind of effects? Up to now, the benefits have far outweighed the difficulties of adjustment.

David Sarnoff predicts that science and technology will advance more in the next 36 years than in all the millennia since man's creation. Naturally, we all hope that the further advance of technology will bring further rises in living standards, personal comforts, recreation, learning, travel, free time for cultural and humanitarian pursuits, everything to which a free society should aspire. But these results will not be automatic. If we fail to make adequate investments in what is sometimes called our "human capital," then the most brilliant flowering of technology in all history could prove to be, in human terms, a mass catastrophe. I think never before in history has mankind faced the possible social errors that were irremediable, at least in terms of survival of the race. Always in the past there was a second chance.

The main challenge of the future, at least to United States society, will revolve not around the production of goods, but around the difficulties and opportunities involved in a world of accelerating change and ever-widening choices. Change has always been part of the human condition. What is different now is the pace of change, and the prospect is that it will come faster and faster, affecting every part of life, including personal values, morality, and religion which seem most remote from technology.

The Angel Gabriel in Green Pastures put it very succinctly when he said, "Everything nailed down is coming loose."

The American teen-ager is brought up in a world of baffling conflicts and contradictions. Few if any societies have ever been more protective of their children. American youngsters are given the best medical care. They are fed according to the latest nutritional dictates with abundance, if not overabundance. Obesity has replaced malnutrition as a serious problem.
Yet, despite the protective shield against physical harm or hurt, they are exposed to the most questionable aspects of adult society with a minimum of protection—much less, in fact, than is provided for the young in countries which offer their children far fewer material advantages. For a number of reasons, ranging from the purely commercial profit motive to the misguided interpretation of freedom, no motion picture, no matter how unsuitable, is effectively made off-limits to minors. The worst excesses of crime and violence are made easily accessible to children on television and in print. The adult world's frustrated and juvenile obsession with sex saturates the adolescent world with inescapable and distorted images. Yet the political speech-making and educational sermonizing stress such phrases as "moral and spiritual values" in a way that makes them appear to be a commodity to be bought and delivered—quite apart from the realities of life. Children are still reared on talk about the morality of thrift and saving for a rainy day, while they are surrounded by signs urging their elders to "Fly now, Pay later."

No nation's youth has ever been given a better insight into the ways of science and the machinery of their own bodies. Yet the spiel of the medicine man and of the cure-all side show have been given vast network billing; and the same youngsters who understand intricate rocket technology are confronted almost daily with diagrams and "scientific" cartoons intended to make them believe totally false and meaningless "facts" about the scientific powers of products ranging from laxatives to floor wax.

The majority of American states have ordered their schools to "teach" the dangers of alcohol and narcotics. Yet the cocktail party is the ultimate form of social respectability, and the legal approach to the narcotics problem is little short of medieval.

Our teen-agers are growing up at a point in time and space when a "new morality" is being peddled, which says, in effect—dirty books are not dirty, swear words are not profane, pornography is art, promiscuity is liberalism, nihilism is courage, and agnosticism is open-mindedness.

In general, about one-third of the youth of this country have never had it better, insofar as their employability is concerned. Those now in school who are achieving well, who find schooling a self-fulfilling process, who anticipate completion of secondary school and some education beyond, face an economy that will usually welcome them. On the other hand, those who have left before at least graduating from high school, and those now in school who
find it unsatisfying—unrelated to their goals and values—face an economy that has less and less of a place for them.

Our youth of today will be able to have far less confidence in the permanency of a way of life or a professional pursuit. The world is changing so rapidly, and technological changes are occurring with such great frequency, that youths of today must be flexible, adaptable, and prepared to make immediate and major adjustments in their occupational lives. Special skills can become obsolete very quickly.

These young men and women are today's children living in tomorrow's world and preparing for the real takeover. Today their strength lies in their energy and their ability to dream. Their weakness may lie in their impatience. World conditions have created a sense of urgency which permeates and influences all our actions. Our opportunities have never been more challenging; but they include, unfortunately, the opportunity to make fools of ourselves.

The American Teen-ager as Pictured by the Popular Press

If we were to limit our appraisal of the present characteristics of the American teen-ager to the newspapers, popular magazines, and radio and television newscasts, we would essentially see the following: "Teen-age Gang Steals Car," "Juveniles Arrested in Gang Killing," "Youth Dope Ring Smashed," "Police Raid Juvenile Vice Party," "Venereal Disease Rates Soar Among Teen-agers," "Delinquency and Crime Rates Among Youth Multiply Startlingly," "Premarital Pregnancies, Illegitimacy, and Abortions Among Teen-agers Become a National Scandal." We could sprinkle in the hundreds of youth-inspired disturbances which do not make the national headlines. The blot on our national scene is ugly and symptomatic.

Let me summarize very briefly some of the findings of a Gallup Poll in which over 3,000 boys and girls between the ages of 14 and 22 were interviewed.

Our typical youth will settle for low success rather than risk failure. He wants to marry early, after a college education. He wants two or three children and a spouse who is affectionate, sympathetic, considerate, and moral. Rarely does he want a mate with intelligence, curiosity, or ambition. He wants a little ranch house, an inexpensive new car, a job with a large company, and a chance to watch TV each evening after the smiling children are asleep in bed.

He is a reluctant patriot who expects nuclear war in his time, and he would rather compromise than risk what he has. Essentially, he is quite conservative and cautious. Youths as a whole are quite religious, yet quite critical of the church as an institution. They do not seem to connect religion with honesty. They regard rigged television quizzes and payola as facts of life. Cheating in school, cribbing on examinations, or taking credit for another student's work is widespread.

According to this report, we have a generation of teen-agers who want to travel first class, who want to retire early. They are willing to compromise, to conform, to exist in intellectual poverty.

William Peterson reports a study of ten northern Illinois high schools in which more than half of the students would rather be a good athlete or a leader of extracurricular activities than a brilliant student.²

It is a popular belief today that young people are drifting and shiftless, too ready to settle for the easy buck, for a sort of middle-class, middle-aged security, less concerned with their own capacity to do a job than with what the job will pay.

According to this view, when we need all our sense of purpose and capacity for sustained effort, we seem in danger of losing our bearing or surrendering to a "cult of easiness."

**Positive View of Teen-agers**

While the authors of gloom and doom spread their propaganda, and while the popular view presents youths as being irresponsible, sexually promiscuous, frequently defiant and delinquent, some views and appraisals of other facts are more optimistic. These appraisals present a view of youths modifying but not rejecting the values and standards of the adult world.

Teen-age marriages have been increasing. Since 1890, the median age of the bride at first marriage has declined from 22 to 20; of the bridegroom, from 26.7 to 22.5. Many of these very young marriages do not work out well, and a disproportionate number of them end in divorce. But a great many marriages at all ages do not work out well. Teen-age couples are confronted with problems, to be sure; but a goodly percentage of them show signs of solving those problems and of making their marriages lasting and fruitful unions.

In spite of school dropouts becoming an increasing problem with

increasing numbers, we have witnessed in the United States a consistent increase in the number of students who graduate from high school. In 1954, 76 percent of students who entered the tenth grade graduated from high school; in 1964, this figure had increased to 79 percent. In terms of numbers, school dropouts are increasing; but percentage-wise, we are making gains, not experiencing losses. Teen-agers in greater numbers and increasing percentages are attending, continuing in, and completing high school.

Now what about juvenile crime and violence? Everywhere outbreaks of teen-age lawlessness have set in motion high-level conferences and have produced a barrage of condemnation aimed variously at teen-agers, parents, schools, mayors, governors, TV, movies, and advertising executives. It is no consolation that the young criminals in New York City—the 60,000 juvenile delinquents—amount to fewer than four percent of all the young people in the city. The conditions against which they are reacting will, unless they are discovered and changed, produce even higher percentages. Future reaction may be even more violent, but we must not lose sight of the other 96 percent.

Youthful contempt for law, property, for the sensibility of other people, and for themselves as men and women does not make a pretty picture when seen in the mirror of the nation's press. But the whole picture of American youth is bigger than the blot, and this picture is relatively clean.

Teen-agers today know more about almost everything than has been true of past generations. They know more about other people, more about science, more about political crises. In general, American youths are bursting with energy and confidence. There is something really beautiful about the forthright expression so common to young Americans.

Recently I read in the newspaper of 600 teen-agers who were involved in a riot in New York City. The same evening, by chance, I happened to see part of the telecast of 10,000 youth assembled in Cleveland to listen to Billy Graham. Regardless of one's view about religion per se, or the brand espoused by Billy Graham in particular, one would certainly agree that such a gathering involved a far larger number of teen-agers and for a more positive and orderly purpose.

Still more recently in my own community, four youths were apprehended for stealing hubcaps; and possibly others who might have totaled 50 (and this is being extremely generous) were involved
in spending their time in some destructive or questionable behavior. But at the same time, 12,000 youths voluntarily assembled to listen to a former member of the President's Committee on Youth Fitness and heard him admonish them to live a life that is moral, honest, and meaningful; to develop the capacity to become loving, mature, and contributing adults.

None of this is to say that all is well with our teen-agers, nor with the world in which we live. The challenge of providing a deep and meaningful educational experience rather than superficial specialization is still more of a hope than a reality. The definition of roles which they must assume as men and women in our world is still confused. The values of our society remain blurred. A world at peace, in which our children can live without the constant threat of war, is still not in sight, and for most of mankind, poverty is still the rule and freedom only a dream.

Never before in the history of mankind have so many young people been confronted by such fear-inducing, anxiety-generating circumstances as face the youths of today. The marvel is that so many of them plan and conduct their lives as well as they do, that respect for self remains in so many young people when their elders show so little reverence for mankind. The world we live in is no defense for the way we live; but to sell youths short on the basis of a few thousand or even several hundred thousand miscreants is to fail to measure the depth, the intensity, and the scope of youths' current struggle.

**Challenge to Teen-agers**

What are some of the alternatives confronting our teen-agers of the 1960's? It is possible that they could repudiate the traditional values of our culture. There could be sharp increases in violence and rebellious behavior of an unprecedented kind. There could be sharply increased political apathy, distrust of political, religious, and social leaders, and more and more movement toward a pleasure-oriented, fun-loving way of life.

The future could hold not only increasing numbers, but increasing percentages of school dropouts; current unemployment problems of youths could result in increased social problems in adulthood for this generation of teen-agers. The willingness to settle for security and safety in employment for those who do find employment could result in increased mediocrity and an abandonment on the part of many capable persons of the pursuit of excellence.
No single authority guides our conduct. In spite of governmental laws, societal traditions, and religious commandments and admonitions, we are free to be prejudiced or promiscuous, to cheat or to chisel. The one source that should be the most singularly authoritative in our lives (namely our own inner control—our conscience, influenced by carefully thought-through convictions) is left frustrated and floundering in what is frequently referred to as a sex-obsessed, pleasure-oriented society. It seems obvious to many serious-minded, professionally oriented students of human behavior that we are currently facing a moral crisis. Even many who seriously and honestly want to try to live moral lives are confused and uncertain as to what is right and what is wrong.

Out of this moral confusion will come either a society of license and brutality or a reorganization of ethical and moral standards based on the realities of our world today. The great changes resulting from the spectacular developments in science in great measure have contributed to our moral crisis. The bomb, the computer, the vending machine, the oral contraceptives have challenged our traditional sense of responsibility and have presented us with difficult new moral choices.

Is it honest to take advantage of or cheat a machine, or should honesty be measured on the basis of entirely human criteria? Are premarital and extramarital sexual relationships morally permissible if, for all practical purposes, the fear of pregnancy is completely removed, or should the rightness and wrongness of such behavior be measured by other standards? Is it moral to spend billions of dollars a year to race the Russians to the moon when many of our own people continue to suffer the consequences of cancer, mental illness, and old age that might well be removed or at least significantly diminished if our talent and money were to be diverted in their direction? Are we moral or immoral if we maintain a provincial attitude of being concerned only about our wants in our hometown, our community, or even our country when over one-half of the world’s population goes to bed hungry every night? What element of morality is involved when one person is purchasing his second home in the country, in the mountains, or on a lake while other persons in the world do not have enough money for even one pair of shoes? Is it moral to rig prices, manipulate markets, bribe politicians, use deceptive packaging, and exploit employees? Is it moral to deny one human being equal opportunity with his neighbors because of a difference in race?
In our American society, where money worship is the major source of happiness, we Americans are preoccupied with success in terms that can be measured by money and material goods to the extent that the ability to make money excuses everything else. Note the cases of Bobby Baker and Billy Sol Estes. But on a less spectacular level than these individuals are the behavior patterns of most all of us when we are dealing with a machine or a big company or the government. Many an individual who would not steal from his neighbor or even a total stranger does not hesitate to falsify his income tax return. Taking material items and goods from a large company or institution is frequently justified in the minds of many individuals because the company is so big it won’t miss them. As a nation we are notorious for distorting facts and magnifying injuries in order to fraudulently obtain claims from insurance companies. Law enforcement officers, social workers, counselors, clergymen working with young people who are in difficulty because of their behavior, are fully aware that they frequently witness the young people parroting, in both words and actions, the moral philosophy of their parents.

In a rapidly changing world, we have lost some of our traditional moral guidelines. We are groping painfully and often blindly for new standards that will enable us to live morally and ethically. Dishonesty and immorality are not just wrong when and if we are caught. Inherent in every act of dishonesty and immorality is something which attacks and detracts from the integrity, self-respect, decency, and well-being of some individual; often, if not always, ourselves and often more than one person. But we cannot turn back to earlier, more simple or rigid patterns of behavior. The teenagers of the 1960’s have more freedom of choice than any previous generation. They have choices to make about power, money, sex, prejudice, and their role in the world. They must find a moral code that will suit the needs of the world in which they live—not a sick world, but one in which maturity, growth, and the well-being of all mankind make life worth living, the kind that enables men and nations to grow and hope and to build a better life for their children. To paraphrase John F. Kennedy—"the events and decisions of the next decade or less may well decide the fate of man for the next 10,000 years. There will be no avoiding those events. There will be no appeal from these decisions. And we shall be remembered either as part of the generation that turned this planet into

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a flaming funeral pyre or the generation that met its vow to “save succeeding generations from the scourge of war.”

The teen-agers of the 1960’s face the challenge of continuing the crusade to improve the lot of millions of Americans and still more millions throughout the world who fail to realize the minimum level of health, housing, food, clothing, and education, compared to what is possible in the world of today. They face the challenge of continuing the crusade for a world at peace where the rights, dignity, and individual worth of every human being are recognized and protected. Our young people who will be the leaders of tomorrow can only be satisfied with what the people of our country can become, not with the mediocrity which many of them live through because of poor education, inflexible customs, and clumsy distribution of opportunities for employment.

Our teen-agers will be challenged by increasing demands for higher education and with making productive use of increased leisure time. They will be confronted with a world of technological advance which will require an unprecedented amount of responsibility. They will face a world which demands increased skill in personal relationships, ranging from the small basic unit of the family to international relations.

As our teen-agers assume their responsibilities of citizenship, they must take upon themselves the ideal of the worth and dignity of man and the determination that man must rise above the levels of class and nation to the higher level of humanity.

They must develop individuals who believe in the saving power of minds—minds that are freely inquiring, deeply informing, but thoroughly uncommitted to much of our present society and culture. A healthy world cannot be conceived by minds committed to a sick one, by minds with large vested interests in things as they are. To be helpful to a warring world, minds must be free from national and racial superstition, prejudices, idolatry—free from the worship of systems and institutions created by men themselves but piously regarded as a special favor from a special Providence.

We must have minds that are daring, courageous, not afraid to doubt; minds with the courage to see and accept reality, to face the consequences of every truth that is discovered and disclosed. Minds of faith and minds with a conviction and belief that the world is structured for survival, not destruction; for life, not death; and the feeling that even in bad men and bad societies, there is a built-in power of self-regeneration. We must have individuals who can love deeply and broadly.
CHALLENGES TO ADULTS

Our teen-agers have vigor, stamina, imagination. They have pride, alert thinking, volatile emotions. We must find a way to help them develop the proper responsibility to go along with these. I have some ideas as to what needs to be accomplished, but I am not sure how we can achieve these objectives. I share them with you in the hope of stimulating you to further thought and action. By sharing our concern, knowledge, and skill, we may be able to make a contribution toward helping this generation of teen-agers climb to the highest level of achievement yet witnessed in the history of the world.

We need to help our youth know that there is exhilaration in intense effort applied toward a meaningful end. The religious precept that you must lose yourself to find yourself is not less true at the secular level. No one who has observed the devoted scientist in his laboratory can doubt the spiritual rewards of such work. The same is true of anyone who is working toward goals that represent the highest values in his society. We want meaning in our lives. When we raise our sights, strive for excellence, and dedicate ourselves to the highest goals of our society, we are enrolling in an ancient and meaningful cause: the age-long struggle of man to realize the best that is in him.

The task we face as adults of keeping our ideas alive is partly a question of leadership. If our youths are to capture a sense of mission with respect to the purposes we care about most, our adults must have the capacity and the vision to place the challenge before them. It is hard to expect an upsurge of devotion to the common good on the part of our youths in response to adults who lack the moral depth to understand such devotion or the courage to evoke it—or the stature to merit the respect which follows.

The values we cherish will not survive without the cost and attention of everyone. They must be nourished in each generation by the allegiance of believing men and women. The fact that millions have died violent deaths while defending individual freedom cannot insure survival of a principle if we cease paying our tithes of devotion. No nation in history has ever had to put up with so much vulgarity, bad taste, and ugliness in its surroundings. History has flung us an exciting challenge by making us the first of all nations in which men of every rank display a measure of taste; and we have responded by displaying bad taste on a massive scale. Let us be honest about it. We have the wealth and leisure and techniques
to make a great culture an essential part of our lives, an inspiration to the world, and a monument to future generations; and we have not even come close to the mark.

Is there something we can do to halt and expunge the obscene elements and spreading violence in our society? How can we improve our image? Norman Cousins has some suggestions for us to consider:

We can re-examine the indifference to violence in everyday life. We can ask ourselves why we tolerate and encourage the glorification of violence in the things that amuse us and entertain us. We can ponder our fascination with brutality as exhibited hour after hour on television or on the covers of a thousand books and magazines. We can ask why our favorite gifts to children are toy murder weapons.

We can ask whether we are creating an atmosphere congenial to the spiraling of violence until finally it reaches a point where living history is mauled and even our casualness toward it is pierced.

We can resensitize ourselves to the reality of human pain and the fragility of human life.

We can be bigger than we are. We can rise above the saturating trivia, redefine our purposes, and bring to bear on problems that combination of reason, sensitivity and vision that gives a civilization its forward movement. "Our ideals are all right, W. MacNeil Dixon once said, but they are unreal until they become articulate."

The missions which our teen-agers must go on will not be easy for them, for they will have to redirect some of their deepest urges towards ends that their fathers would have found unthinkable. And these missions will not be easy for them to complete, for we cannot be sure that mankind, even under the most prudent leadership and with the best of luck, will be spared the agonies of nuclear war. The fact that it calls for new ways of thinking and for calculated risks is, however, no reason not to enter upon it boldly.

The world of tomorrow, which our youths are moving into, will be characterized by major and rapid technological changes. However, advancement in education, transportation, and technology must be accompanied by moral responsibility. Our current attitude seems to be that instruction in moral and religious values is taboo. Without adequate instruction in values, there can be no wonder that the typical youth finds few values clearly definable or secure. We live in an age when many persons, including parents as well as profes-

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sional persons, hold many misgivings about and often strongly resist giving children any religious training or making any attempt to influence or determine their values on the assumption that it is taking unfair advantage of the child. They say, "I propose to let my children grow up as far as possible unbiased in order that they may choose their own values; embrace, if at all, their own religious philosophy." If we do not educate a child, the first one that he meets on the streets, in school, or among his companions will begin the work of educating, impressing, biasing, for this is a continuous process. Whether he will be biased or not is something over which we have no choice—it will be something that will be done, either wisely and well or unwisely and ill.

If our democracy is as precious as we claim, if freedom is as rare, democracy as unique, and equality an inherited God-given right, we owe it to our American youth to teach them their heritage; otherwise, they will dissipate it. Before it is too late, we must drop our fear of indoctrination and build a patriotism which will give every young American pride in his nation and community. This Week Magazine recently surveyed history books issued before 1920, compared with those issued since. Nathan Hale said, "I regret that I have but one life to give for my country," in 11 of the old texts and in only one of the new texts. Patrick Henry said, "Give me liberty or give me death," in 12 out of 14 earlier texts and in only two of 45 recent ones. But John Paul Jones set the record. He said, "I have not yet begun to fight," in nine of the old books and in none of the new ones.

In all I have said, which has been critical and harsh, I have not condemned young people. I have not said they are a lost generation or hopeless. Nor have I implied that they are to blame. I have not tried to assess blame; I have tried to analyze what I believe to be basic areas of desperate need.

Our youths are as strong and as weak, as intelligent and as frivolous, as serious and as silly, as disciplined and as wild, as religious and as worldly as we have made them. If they have lost what we or our fathers cherished, it is because we have not made it meaningful to them; and, consequently, they do not cherish it. Surely a nation that can usher in the atomic age and break the sound barrier and conquer outer space will not collapse and die because it cannot cope with its youths. The nation that has finally laid its hands on the precious heritage of freedom, equality, and economic opportunity surely will not dissipate that heritage by failing to adequately interpret it to its youths. A quotation from Mohandas K. Gandhi
comes to mind and seems appropriate here: "Sometimes in the night, this truth awakens me—that of all the sins the most unforgivable is the sin of weak decency—the sin of the cowardice of the righteous, the sin of the just and silent in the presence of injustice."

Our youths are still in a state of becoming; and in order to become the best, to experience the best within them, they need to have parents, adults, and community and national leaders who will set an example of fairness, untouched by favoritism—individuals who will provide inspired leadership.

Adolescents need heroes. If heroes are not offered to them, they will create their own as they have managed to do with such dismal results as the teen-age idols of rock and roll.

James Reston wrote in the New York Times: "New models and styles are met daily by television, but most of them are models of cars, of styles of dresses and hairdos. The youth of our nation need something more heroic as a model—a Gettysburg Address or a Churchillian oration or the flight of a Lindbergh or the quiet courage of a Pasternak." Our nation does have a whole new set of heroes. Their names are Carpenter, Cooper, Glenn, Griffin, Shirra, and Shepherd. This is why John Glenn himself is almost as important as his flight into outer space, for he dramatized before the eyes of the entire nation the noble qualities of the human spirit. The memorable performance of Colonel Glenn may not stamp out juvenile delinquency overnight, but the models of human character are probably more important than this age believes.

Not all the models can or must be national in scope. Good teachers and strong parents can provide an image that makes the phony mass culture of the vulgar and untalented idols fade. What is needed is the patient development of the kind of character and mind that conceives itself too clearly to consent to its own betrayal.

A young person is a dynamo of energy. He needs help, not control, in determining what to strive for with his energy as well as the point of the compass at which he should aim. As parents or professional workers, we cannot command genius or ambition or altruism to appear in any youth, but perhaps we can show how a youth's capacities may best be directed in his search for happiness and accomplishment. Once he is moving in the right direction, a youth needs to realize an ancient but still valid truth—that nothing can be had for nothing. If a man wishes to reach the top of a mountain, he must not shirk the trouble of climbing. He may fail, and failure has a certain dignity, but not failure to try. If as professional persons and adults affecting the lives of teen-agers, we are
able to point out the folly of being mislead by mirages, and to in-
spire young people to look destiny steadfastly in the face and to
measure their strength when there are difficulties, we will have dis-
charged an important responsibility and will have shown young
people how they may more adequately fulfill themselves. As parents
and adults, we cannot rightfully abdicate our responsibilities to our
youths. They are still in the process of becoming. They do not
need our tyrannical control, but they do need our guidance and ex-
ample.

To communicate true values, we must have true values. I would
urge that we look beneath the surface of our opinions, our con-
victions, our fears, and examine more thoughtfully and more
honestly our own standards. If we define for ourselves the things
in which we truly believe, the things we value above the expedient
or practical or self-gratifying, then we shall be able to convey them
to our children. If, for example, we say education is good because
it has stimulated our own lives, sharpened our ability to appreciate,
distinguish, serve, then our children will put more than a dollar
value on a diploma. They will seek learning rather than grades.
I find myself annoyed with the frequent reference to the fact that a
person with a college degree can earn $280,000 more in a lifetime
than he can with only a high school diploma. It would be good to
hear now and then some other reasons or values for obtaining an
education.

If we see work as having a focus and providing the satisfaction
that makes the effort worthwhile, then our children will have some-
thing more upon which to expend their energy than the matter of
having fun.

I do not believe that the apathy of our young people, when it
exists, has its source in indifference to the "finer" things of life, or
disdain for them. Rather, it rises from a disenchantment with the
adult life they see around them and from their despair over the
phonies adults often pawn off to them as substitutes for real values.
If we would transform that lesson of life into the pursuit of truth
and happiness, we too must undertake the quest.

Summary
We need leaders of moral character and fiber who have the courage
and the sense to speak and to act in order to provide the kind of a
climate in which youths may truly prosper. They need not only our
pulpit pronouncements; they need an example of the fusing of pre-
cept and example. They do not need any more diatribe, they need some direction; not critics, but models.

Scientific studies can help and are badly needed, but I want to suggest that an area which has been ignored is that of arousing their devotion and commitment. In the first part of the fifteenth century, a French peasant maid by the name of Joan of Arc was called upon to save her country from its enemies. With her sacred sword, her consecrated banner, and her belief in her mission, she swept her enemies before her. She sent a thrill of enthusiasm through the French army such as neither king nor statesman could produce. On one occasion she said to one of her generals, "I will lead the men over the wall." The general said, "Not a man will follow you." Joan replied, "I will not look back to see whether anyone is following or not." But the soldiers of France did follow Joan of Arc and she saved her country from the British and then fell into their hands.

While the fires were being lighted around the stake at which this 19-year-old French peasant maid of Orleans was to be burned alive, she was given a chance to regain her liberty by denying what she believed. In choosing the fire above her freedom, she said:

The world can use these words. I know this now. Every man gives his life for what he believes. Every woman gives her life for what she believes. Sometimes people believe in little or nothing, and yet they give their lives to that little or nothing. One life is all we have, and we live it as we believe in living it, and then it's gone. But to surrender what you are and live without belief is more terrible than dying—even more terrible than dying young.

This kind of devotion and commitment can not only exist in a teen-ager of the fifteenth century, but could exist in our current generation of teen-agers.

There is no single simple key to the problems which readily exist or the challenges which face our generation of teen-agers. There is no grand or magic formula to be adopted by one or two agencies or one or two communities. Successfully coping with the challenges and responsibilities must be the product of many groups—schools, churches, community agencies, families, professional organizations, etc., the sum of many acts. It must be dynamic, not static, changing in order to meet the challenge of the new generation. Our solution must be a process, not a destination.

We are not helpless before the task or hopeless of its success. Confident and unafraid, we must labor on, not toward a status of
"teen-age tyranny" but toward a society of responsible teen-agers and adults.

It is my conviction that our teen-agers are responsible individuals who are proud to offer such devotion when given the opportunity. My optimistic willing and hoping leads me to a view that the academic and intellectual performance of our youth will exceed that of their parents. I believe that they will come up with a modern interpretation and definition of values and standards which for years have been an inherent part of our culture and society, so that they will have something finer and more functional than what currently exists. I believe they will produce leaders who will find increasing effectiveness in defending the freedom and rights of people throughout the world. Certainly our young people have been among the most active crusaders for civil rights.

They undoubtedly will be heirs to a greater amount of leisure than has been true for any large group of people in the history of the world. But they may do a much more successful job in adapting to this way of life and making productive use of their time than have their parents. In general, they will be more highly educated, more widely traveled, more physically healthy, than previous generations. Let us hope that they will be more alert and emotionally healthy, more socially stable, more politically capable than their predecessors. If they are to help create and live in a world of peace and productivity, they must develop traits of faith, integrity, courage, loyalty, responsibility, and determination.

I do not want to minimize the serious problems and challenges which face us as adults, parents, and teachers, living today with teen-agers in the 1960's. But actually, this generation of teen-agers may be one of the most trustworthy and capable we have had in a long time. Today's youngsters are honest and free in their feeling and thinking. They seem able to face a perilous world situation without the frenzy of the 20's, the bitterness of the 30's, the oversimplification of the 40's or the apathy of the 50's. Some four or five percent (or even ten percent) get into trouble, and the trouble they get into is extremely serious. But considering the temptations, frustrations, and complexities to which they are subjected, and the confusion that surrounds them, the 90-95 percent who do not get into trouble deserve congratulations.

There is much that is very good, and gracious, and promising in our teen-agers. I want to affirm my faith in the people of this land and the teen-agers of this decade. I have great faith because I know so much that is so good about so many.
A New Mormon Theatre

Lael J. Woodbury

We have never discovered art forms derived from and uniquely pertinent to Mormonism. Despite the axiom that a singular philosophy will generate indigenous art, we still produce neither new musical or graphic modes nor new conceptions of theatrical presentation. Rather, we try within existing forms to articulate those values which distinguish us.

Art representing those values will be affirmative, or life enhancing; illustrative of the eternal character of life, personality, and matter; an optimistic celebration of the joy of life and the goodness of the sons of God. These concepts inform our total perception.

Other more specific possible themes are: man's salvation was purchased by Jesus Christ; man is a sublime-divine creature; there must be opposition in all things; man is that he might have joy; the universe manifests a concept of eternal progression; man's exaltation derives from his ancestry and posterity as well as from his own acts.

Significantly, of present art forms only music expresses these values well. It is essentially affirmative. It epitomizes order, is typically cyclic, illustrates opposition and resolution, and depicts progression in model form.

Small wonder, then, that music is the art form most acceptable to the Church. Music is a part of every meeting we hold. The Tabernacle Choir is the single art-making unit which the Church regularly supports and promotes. We do foster graphics in temples

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and information centers, present pageants, roadshows, and other events such as speech festivals, but we promote no artistic activity having the same status and frequency as music.

Now this fact illustrates a paradox. We are an artistically conservative people who seldom produce or purchase art in modern forms. Our information centers depict only realistic styles of graphic art, and we publish only conventional literature. Even our Church and private architecture is conventional, as conventional as the paintings we display there. In truth, there is no regular encouragement within our culture for modern abstraction, whether graphic, theatrical, or literary.

Yet music, our most acceptable art, is the most abstract art. Indeed, pure music—without words—is wholly abstract, consisting only of sounds structured by quality and time. How strange the paradox of a culture which encourages artistic realism finding its values best expressed in music, of all arts the least realistic!

Perhaps music is most acceptable because, being abstract, it expresses the ideal which is the very essence of Mormonism. The literal detracts from Mormon thought. That is, we are more interested in man's relationship to God, the ideal, than we are in man's relationship to his environment or even to other men, the particular.

For theatre, this fact has profound meaning, for Aristotle defined tragedy as the "imitation of a [human] action." But it is the realistic depiction of human actions—the most human of actions—which is most deplored. For us the theatre is not a proper instrument for depicting aberrant behavior, sexual deviation, or even a forum for discussion of political and social innovation. We do not look to the theatre for instruction about real life.

Yet the very nature of conventional dramatic structure requires conflict, an artistic device which is unacceptable to LDS audiences even when the playwright aims for life-enhancement or affirmation. Life with Father, for example, is a conventional drama about a father who loves his family and who, in this sense, depicts an important LDS ideal. The play's comic device, however, derives from his reluctance to be baptized, and so, of course, it can offend LDS audiences. Death of a Salesman is a superlative drama about a man's relationship to his sons within America's economic system. These problems need to be explored. The conflict which structures the

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3I use the term abstract here to describe that which is not literal, realistic, photographic, concrete, or particular. To abstract meant originally to define design elements, but the term now describes that which is ideal, essential, the non-objective.
play, however, springs from the father's adultery and, therefore, it is unthinkable that the play might be staged in a cultural hall.

The point I mean to emphasize here is that conventional dramatic structure is fundamentally unsuitable for Mormon art, and that, despite our apparent aversion to abstraction, such an indigenous art must closely parallel musical structure.

Let's consider music again, for its example suggests other useful forms. When we attend a symphonic concert, we find that sounds, artfully arranged, somehow direct us toward spiritual values. We are not asked to discover those concepts by observing actions. The sounds we hear do not symbolize love, hate, envy, or human relationships and attitudes. The sounds mean exactly what they are, sounds artfully structured into interesting and beautiful relationships, but the perceiving of those relationships generates spiritual awareness.

Music typically consists of individual sounds arranged so as to produce an aural statement which is lead into convolutions from which the statement again emerges. In the process certain parallels between music and Mormon philosophy are obvious. How often music illustrates the awesome tension which unifies the solar system. How often in music we discover the cyclic patterns, described in Ecclesiastes, which parallel the timelessness of eternity. How often music, by juxtaposing and resolving conflicting themes, illustrates the positive principle of opposition in all things.

We now have the technology and the artistic climate with which to create comparably in theatre. Unlike traditional theatre where voice (language) and movement were the most useful ways by which the dramatic artist could appeal to his audience, we now enjoy a theatrical machine so versatile as to permit almost complete control of all audience perception. We can manipulate temperature, texture, odor, audience-actor proximity, and aural stimuli; and we can, through the manipulation of light, absolutely compel the audience to see what we want it to see.

We can, for example, lead the audience through a series of light or sound experiences and suppress all other stimuli so as to focus perception. We can do with color what Beethoven did with sound. His Fifth Symphony leads a rhythmic pattern—di-di-di-dum—through variations of form and quality.

In today's theatre we can do the same with color. It is possible through the use of light and fabrics and forms, for example, to explore the entire range of the blue portion of the spectrum, ex-
aminaing its chroma, its hues, and seeing how they appear when placed on objects such as metallic cloth, sawdust, the human form, aluminum sculptures, and wooden cubes. We can create a color statement, and then, following Beethoven’s example, lead it through a complexity of variations and counter-colors—a color symphony. The purpose of this exercise would be to stimulate a new appreciation for the variety, magnitude, and beauty of God’s gift of color and its perception.

Perhaps more easily appreciated would be a production derived from a minute examination of the constructs of matter. That is, the micro-world is marvelously ingenious and ordered, characterized, in some instances, by intense color, symmetry of form, and complex relationships. These qualities abound in living cells, snowflakes, the eyes of insects, the bee’s honeycomb, the color and structure of flowers, and similar minutiae.

Now we agreed earlier that music does not mean, it is. We hear not concepts, but sounds. In that same sense, these constructs of matter do not mean, they are. A photograph of a fly’s eye need not even mean a fly’s eye, it is simply a photograph of a symmetrical pattern. When enlarged or projected it will depict a pleasing orderliness instructive of the Mormon concept of the universe. It appears, then, that our unique art will consist of depicting that which is for what it is—the beauty and wondrous harmony of the fundamental elements of God’s world. The Mormon artist, because of his unique knowledge of God’s glory, and the significance of man and the universe, will discover the elements representative of these concepts and present them in interesting and relevant forms.

The technique is not unlike that of certain poets who make a minute examination of common phenomena, and who there discover patterns and meanings of larger significance. Consider, for example, this excerpt from “A Basin of Eggs,” by May Swenson:

Their cheeks touching,
their cheeks being
their bellies, their
bellies being undimpled,
dimples of dark being
blue chinks between
their touchings—.

Here the artist directs our attention to unobserved relationships by following poetry’s conventional practice of juxtaposing verbal images. That is, after all, what a poem is—a collection of images.
And we can create a poetry of the theatre by juxtaposing visual or aural or other sense images which will generate within us the same new perception which poetry produces.

The parallel between language poems and theatre poems is important. With language we create verbal images in time designed to give the reader or listener the experience of the informing stimulus. The poet who describes a tree begins by likening its pattern of light to those of a painting, its form to that of a fountain, its texture to that of a tapestry, and he concludes with generalizations about the tree as an object of beauty, grandeur, and endurance. The tree, a space object, is explored by the poet as images in time.

The aim, I repeat, is to give the reader a richer experience of the tree. We may look at it, but its beauty of form, or its texture, or its status as a symbol of enduring life will escape us. The poet directs our attention to hidden dimensions of the tree's meaning.

In theatre, with its myriad resources for controlling perception, we will create theatre poems which posit in time images which otherwise escape the audience. One theatre poem might lead an audience to experience the qualities which characterize Woman. Why? Because Woman, as a potential priestess and goddess, is the means of God's glory. She shares, according to our doctrine, a more exalted destiny than is promised by any other philosophy. She is loved, revered, made fruitful, and glorified. Thus Mormon philosophy encourages Woman as an appropriate theme for a theatre poem, because the poem gives the spectator a more comprehensive perception of what Woman is.

Woman is soft. This value can be made concrete by soft sounds or by soft movements. Or, as has been done, the room itself can be lined and floored with plastic surface giving a warm and pleasing tactile experience.

Woman is scent. The poet likens her verbally to flowers, shrubs, spring breezes, and other pleasant odors, but these are word-pictures describing what she is thought to be, not concrete expressions of what she actually is. The Japanese, to heighten their own sensitivity and to acquire the maximum experience of odor's beauty, sometimes hold "scent-perception" events at which pieces of pungent wood, elaborately wrapped, are slowly passed from one to another. The participant enjoys the double pleasure of the artistic wrapping as well as the object's scent. Since we are reconstructing traditional concepts of the theatrical art, why not use this and other techniques when appropriate? It is technologically possible to diffuse scents throughout a theatre.
Woman is curved. This quality, too, can be conveyed by dancers moving in curved patterns, by projections of curved linear forms, by abstract colored images which move gracefully in imitation of woman's walk or body.

Woman speaks softly. Her voice is warm, lush, and rich. Each of these qualities can be represented as projected color, as projected images, or as movement patterns. The values of her voice can be represented sequentially as intoned sound-images created by a living female chorus or by traditional musical sounds.

An interesting experience, for example, one now common in experimental theatre, is to have an actress speak into an electronic device which projects a color equivalent of the rate, force, and quality of the voice onto a screen, thus objectifying or making visual the unique characteristics of her voice. Such a device was placed in a well outside the palace for a performance of Oedipus Rex. During the emotional moments of his role, the king approached the well and spoke above it with the result that the personal qualities of his voice and feelings were projected on the theatrical cyclorama behind him as kaleidoscopic colors which were exact replicas in light of the sounds he made.

The notion we must first dispel is that a theatrical experience to be valid must depict an action having a beginning, middle, and an end, as Aristotle prescribed. Man is God's noblest creation. He is much more than a personality caught between the first and third level of existence. Man is complex architecture, he is grace of movement, beauty and form, an efficient machine, a spectrum of color, a musical instrument, an alert and responsive organism. Each of these qualities can be represented as visual or aural images simultaneously, as in a panoramic view, and, when necessary, time can be suspended to permit a leisurely sequential examination of each image.

An interesting example of timeless, sequential, man-movement might consist of an actor representing the human experience of death. He might, of course, simply collapse as in traditional theatre. But he also could take the time necessary to depict the inexorable course of death through the body, showing its impact upon an arm, leg, the head, the neck, a second arm, and, eventually, the moment of absolute death which occurs, presumably, in the heart or brain. He might require twenty minutes to present that experience in much the same way that an operatic tenor does when he sings a closing aria concluding with a burst of energy despite his having been mortally wounded.
Another helpful concept is the concrete metaphor. We are so conditioned to the premise that the theatre depicts action that we find it difficult to accept a theatre of ideas made concrete. In *The Bald Soprano*, playwright Eugene Ionesco demonstrated the banality of social conversation instead of merely depicting an action in which people seem to communicate, but who become misinformed and, therefore, elect unhappy actions. He made his idea concrete by presenting people who moved in everyday action, such as those observed at a tea party, but he gave them nonsense lines to deliver—vowel sounds, slogans, and cliché expressions so that the audience knew the characters believed they were saying intelligent things to each other but that they exchanged no meaningful information. His belief that modern man does not communicate was thus made concrete, was represented literally. In *Waiting for Godot* the idea that man is waiting endlessly for he knows not what is made concrete by a group of actors in a timeless place who discuss endlessly the enigma for whom they wait, although they do not know who he is or why they are there.

Several plays suggest the great transformation that awaits us when resurrected, but I never saw the idea expressed more concretely than in an exercise in which the characters performed briefly wearing plastic skins over leotards. Later and as part of movements done in very slow motion, they removed the skins which blurred their action, their freedom, and their vision. After their encumbrances were discarded they discovered the beauty of their form, their surroundings, and an elated feeling of liberation.

The Latter-day Saint concept that there must be opposition in all things is, to me, one of the most potentially fruitful concepts for theatrical production. We believe that all matter and personality are rightfully and delicately poised between dynamic opposing forces, and that out of this crucible of conflict, new forces and refined personalities arise. This idea will be expressed in concrete form by movements which conflict and then merge in new sophisticated patterns, by sounds which initially conflict but which merge so as to create richer, more complex sounds, by uncomplimentary colors which, when manipulated, merge and create new, more beautiful colors.

Envision a pattern of four fabrics placed in the center of a stage upon which light of varying colors and intensities is focused. The patterns and textures of the fabrics reflect various qualities and forms, but as they are manipulated—as an intense magenta light is reflected from aluminum, from beige silk, from green cotton,
from metallic brocade, from plastic surfaced modern fabrics, from vinyl, and from textured wool—we see directly demonstrated the axiom that there must be opposition in order to create beauty, vitality, even resurrected, glorified men.

At Brigham Young University we have begun serious experimentation in theatre poetry. In the 1968 theatre season, we produced An Evening of Unconventional Theatre which was a conscious attempt to implement these principles. The evening began with an effort to heighten appreciation for form and color. As I have noted, in some cultures—particularly the Japanese—objects are appreciated as much for their form as for their use. The packaging of a present is as important as the object, and the recipient is expected to enjoy the unwrapping of the package—savoring the effect of light upon color and form and the intricacy of the wrapper’s technique.

Our production began with a play of light upon cubes, triangles, and cylinders, and this experience was intensified by a slow and ritualistic unwrapping of layers of packaging. The layers consisted of various colors of fabrics, and when each layer was unwrapped, the lights changed in an attempt to create a medley of orange, magenta, red, green, blue, cerise, and white so as to create contrast and tension of color and to heighten the visual appeal of each layer of wrapping. When the packages were finally unwrapped, they contained blocks of cedar and other aromatic woods which were passed among the audience so that they could enjoy the aroma—the precious aroma of some of God’s creation intended, as I believe, for the pleasure and aesthetic sensitizing of his children. Later in the evening we analyzed sequentially the beauty and the complexity of quality and rhythm which reside in the single sound emitted by one bowed violin string. The sound was first established, then it was given rhythm. We aimed to fragment time—to explore with a sequence of images all that is present in one aspect of God’s creation. Eventually sound was transformed into simple music, then into complex musical patterns which resulted in a song, then into the human voice reciting a poetic narrative, then into the soft sounds of the sea. Ultimately, all of these qualities found within the original source of sound were created visually by a corps of dancers which we then illuminated in pools of deeper color. All of these images are implicit within a sound of a bowed violin string! I could not restrain a feeling of awe as I contemplated the beauty, richness, and complexity of God’s creation when he gave us the gift of a single sound.
Lest the audience think us pretentious, we staged a humorous silent movie under a flickering strobe light which was highly popular, but we used the exercise as a means of freezing movement and demonstrated its effect upon a girl-figure which exercised upon a trampoline wheeled into the center of the stage. Thus we gained a new appreciation for the human form in motion, and for the gift of light which permits us to perceive relationships, color, and beauty of form.

We also created a screen and light dance in which we used four slide projectors and two movie projectors simultaneously to surround the audience with sound, moving pictures, and intense color patterns. This event began with a single figure in the darkened arena lighting a candle in the center of the floor. We then watched an elaborate display of light, color, sound, and movement as it grew in intensity and complexity until it achieved a climax, after which it was systematically reduced until only the candle remained alone on the stage. Finally a lone figure moved slowly to it and blew it out to the final strains of music. The experience was moving, designed to impress upon the audience in a very concrete and literal way the infinite dimensions of light, sound, and movement, and their perception.

I do not believe the audience must leave the theatre totally aware of the ideas which informed the selections. It is not necessary to say when leaving, "Tonight we saw Woman or heard sound or saw light," because we perceive these elements, however poorly, without the artists help. The aim of the artist is to bring the audience to a new awareness of the meaning and range of his surroundings, to make him appreciative of God's gifts to acknowledge that the world is beautiful, is good, is stimulating, and has order. And if this world contains these elements, then the next dimension of existence occurs where these qualities are even more abundant.

Today's theatre is, in my opinion, the superlative place to teach these concepts to our own culture and to the world. Its organic purpose is to make concepts concrete. Properly understood and used, theatre performs the function Brigham Young envisioned when he described it as the foremost civilizing instrument.
Final Address to the British Council

Arthur Henry King

'Faith is . . . . the evidence of things not seen',
and therefore itself not to be looked at,
but to look at other things with.
It is, in fact,
like the periscope, microscope, or telescope,
the means of bringing evidence into view;
or rather,
like the radio-telescope,
a means of sensing the unseen
('Greet the' sputnik or the pulsar 'with a cheer!')
through another sort of eye.
'By faith', then,
poet and scientist became fellow-'strangers and -pilgrims';
and,
from any other than a superficial standpoint,
Lord Snow's ideas about the two cultures
are either platitudinous or nonsensical:
they are meant to mean and fail
through that lapse of faith in writer and reader
formerly known as accidie.

The Fall gave man a right
to choose the kind of consciousness
that makes a plain surface but,
like sky reflected in water,
illusively deepens the shallow,
or provides a bright false bottom
to cover a real but shadowy depth;
and thus the Fall gave man an equal right
to ignore the kind of consciousness

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that is clear in itself
because, without Orphic retrospection
on Platonic introspection,
it looks outward from the cave-mouth
at a morning landscape
lit,
not from in front,
nor from the cave,
but from a point above and behind sight
back of the towering range of which our cave is a modest cell.

You cannot, by intending it, educate for personality;
yet without personality there is no education.
Some forms of educational environment
seem indirectly to encourage
the genuine ‘substance of things hoped for’,
whereas others produce a synthetic substitute.
Thus, a country that, instead of creating particular artifacts,
makes introspective attempts at self-generalization,
falls to the level of Keyserling’s or Spengler’s style,
and is already a second-rate power,
sealed and sold to a mannered devil.
And thus, diplomats en poste
become postmen of sorts:
their manners
(these at least do not come by bag
and so—and yet—are not permissive)—
their manners are their contribution to the message,
and, mediumlike, their means become their end;
but ‘there’s’ no bureaucratic ‘divinity’
to ‘shape’ the Council’s ‘ends’:
we get our modicum of clay
and it is left to us
(with manners or not—
preferably not,
for they tend, like a cuckoo in the nest,
to shoulder genuine fledglings out and down)—
it is left to us to produce good form.

Our attitude to the Council’s work
should therefore be not that of seeking an image,
or confronting ourselves in the shaving-mirror,
or even that of a Rembrandt self-portrait—
  wistfully puzzled though this may be—
  and certainly not that of listening to ourselves talk;
  but rather that of hearing our voice on a tape
  for a few unrecognized instants,
  or of glimpsing someone else
  on the scanner-screen above the potential shoplifters
  or in an angled glass along a corridor,
  and suddenly realizing the stranger as ourselves.

If you think you know your centre,
you will be nothing but self-conscious circumference;
if you confine your self-knowledge to circumference,
you will be merely knowing;
if you try to define your end,
it will be mean;
if you concentrate on means,
there will be no end of them;
but if each of you is himself,
and you are all yourselves,
the centre will operate
and the end remain itself.

Those too lazy to afford
' a condition of utter simplicity
  costing not less than everything'
( accustomed as they claim not to be
to public—and private—utterance,
  linking clichés with loose and matey interjection,
' sort of' slipping in the slack 'you know'
or a facile 'frankly speaking';
or wearing a heart
like an eidolon fori procured for minimal coin
from some newsman, flagwoman, or pedlar on the kerb—
a heart pinned, not to the sleeve,
but to the lapel
  to hide the mike in the buttonhole)—
those too treacherous to attain simplicity
( for spiritual laziness
in mere self-defense
takes to Iago's kind of treachery)
plump for a substitute: simplesse.
The difference between *simplesse* and simplicity remains a fundamental class-distinction quite unbearable to those who have settled for *simplesse*; Since to choose so (though hardly original sin, being rooted in conscious or subconscious envy and therefore common everywhere from the pub to the grace-and-favour apartment)— habitually to choose so grows into sin against the Holy Ghost; for it leads through hypocrisy to humbug, which is self-deceiving hypocrisy; through gradual suicide to a whited sepulchre (Iago at least seems to have remained his reserved self to the end).

There is no greater threat to any society than boosting false leaders or fabricating dummy heroes. Look unremittingly at public men to detect any constructional fault that may invalidate their façade. This is not unfair procedure: they need not take the test; they are not compelled to a public career, and, if they lay no claim to greatness, dismiss them with mercy and forgiveness; but if they stake their claim (and the claim will not generally be explicit like that of de Gaulle, but implicit in acting and attitude, like Mr. Wilson's head-and-shoulders full face on TV, or Canterbury's gracious condescension contrasted with his rather less grace of York's more forthright approach)— if they use that claim, expose it pitilessly as that of a misleader and blasphemer; for, since goodness is essential to public greatness—as opposed to private genius—and since only God is good,
then only God can be truly great.
Of the rest of us he requires—
and we cannot directly require it of ourselves—
the humility of not being aware of ourselves:
an attitude that develops indirectly
as an unconscious residue or summation of our conduct.
It is in this sense above all
that we have to become as little children
to enter the Kingdom of heaven—
and they have to be the sort of children
who have been given love without self-projecting attention:
they had better not be 'cute.

In Gandhi
sentimentality slept on a sterile charpoy
with lust.
Daily the former, awaking,
dragged the other about as a sleeping partner
to spin thread,
make salt,
or give a leg-up to the local cobbler.
Is it any wonder policemen got burnt,
or that a saint so duplicitous
should have drawn his killer’s gun?
Full of the cow’s milk of human kindness,
that Brahminy bull Nehru
as a younger man could not get away from himself
even at his wife’s deathbed,
and as an older one
struck his way angrily through an eager crowd.
Stalin applied his youth’s Byzantine theology
to the machinations and assassinations of middle age.
Hitler gave Chaplin a chance
by adopting the lower-middle class naiveté
of wide blue eyes and a toothbrush mustache—
he looked as if my father had gone sleepwalking.
The only trouble was
he also let loose the lower-middle-class envy
seething below the crust of its state education
or wallowing vicariously—as we still do in Britain—
in the aggression of its daily newspaper.
Roosevelt in Grosvenor Square
strikes such a cloaked stance
that the very cherry trees—Remember Washington?—
derive artificiality from it.

Mousy—'Mousy, Mousy, where are you going?'—
Mousy Tung versed and walked with cunning strength,
but sagged into thinking like a tear-off calendar.
Even Churchill
put on only a 'carapace' part of the 'armour of God',
leaving the 'soft underbelly' of family relations
hidden but vulnerable;
and with the simplicistic pastiche
of his rhetoric and action
(the one early-Victorian liberal Macaulay,
the other late-Victorian buccaneering imperialism)
reducing most of us to tears
(the blood and sweat were not so ready)
and many of us to brave simpletons
(his dealt obstinately with those that kept their wits),
he preserved us, but he could not save
(I still prefer King Alfred).

Luckily it is not the Council's business
to draw attention to contemporary statesmen,
but to make friends
and share the products of genius
whatever their apparent political complexion.
(If the politics are false,
the style will expose them,
whether in G. K. Chesterton, Julien Benda,
Norman Mailer, or Bernard Levin.)

As we grow old,
our spiritual and stylistic arteries
are liable to harden,
rendering our wrinkled voices
(the extreme examples,
regressive in their simple but 'o'erparted' simony,
being Maugham and Auden)
a song-of-simian caricature;
and as an aging man I am bound to be suspicious
of the style of this Final Address.
(Ask yourself whether it is pastiche or parody of the *Four Quartets*, whether it’s any good as either, and whether, indeed, *they* do not resemble the curate’s egg.)

Let us pray
(for most of us are Claudius
in uneasy yet unceasing usurpation of rôle after rôle—
and, though I spy Fortinbras in one corner
and good Horatio in another,
where, prey, is Hamlet?)

Let us pray
that, if we *can* pray for the desires of our hearts,
we shall not find ourselves lost in duplicity,
but be found simple and upright at the last day.
A Land
Unpromised
and Unearned

P. A. Christensen

The world is so full of a number of things
I'm sure we should all be as happy as kings.

Our theme for the meetings, for the lectures, of this Leadership Week, assumes that in our world so full of a number of things there is a special land, a land that has been promised, a land that has been set apart for a special purpose and for a particular people—or should I say, a peculiar people? About such a land I have nothing to say this morning. I want to speak about another land, to me the most precious land in our world so full of a number of things. I am calling it an unpromised land. In a sense this special land is no land at all. Geology knows nothing about it. It has no hemispheric location, no geographic setting. It is without latitude and longitude, altitude and isotherm, valley and mountain range. Yet its boundaries are as wide as the earth, and its wealth is illimitable. But it is wealth with a difference. It is wealth to which the whole earth itself and all its people contribute, and in which men and women everywhere share, or may share, freely without discrimination as to country, race, color or creed.

I say, share freely, for this land unpromised is also a land unearned. It is a land given to all mankind without condition or contingency. It is as unrelated to the material world, the world of things, the world of barter and sale, of advertisements and prices, as it is to the world of altitude and isotherm. For the land unpromised and unearned is a realm of spirit. It is the realm of sen-

Leadership Week address, Brigham Young University, June 8, 1960. Reprinted from P. A. Christensen, Of a Number of Things, copyright 1962, University of Utah, by permission of the publisher.

P. A. Christensen, late professor of English at Brigham Young University, was chairman of the English Department for over twenty-five years. He died in 1968.
sory delight—of fragrance, sound, form and color. It is the realm of human associations—of gratitude, loyalty and appreciation, of selflessness, helpfulness and forgiveness, of friendship, love and compassion. It is the realm of human growth and transcendence—of truth discovered and accepted, of beauty created and enjoyed, of goodness deepened and made manifest in life.

None of us are strangers to these realms of spirit. We have sensed the world about us, smelled its fragrance, heard its sounds, glimpsed its forms and colors. We have warmed our souls in the glow of human associations, have had our moments of selflessness and gratitude, love and forgiveness. We have felt an upward reach within us when made suddenly aware of a truth, a beauty, a goodness above and beyond our own attainment. But few of us know these realms as our natural habitat, as the normal residence of our spirits. We are more at home, more at ease, in the world of things, in the world of getting and spending. So when conflicts arise between our spiritual and our material worlds, as they inevitably do, it is usually our spiritual world that suffers, and suffers tragically.

It suffers not by our conscious intent but by a subtle process of materialization within us. We prefer to remain spiritual. Spirituality is with us not only a good word but also a good thing. We eagerly appropriate its values to ourselves and commend them to all the world. But more and more we ascribe its values to the realm of things; we redefine it in terms of the material. Words, ideas, ideals, principles, once applicable only to the world of things, we unconsciously transfer to the realm of spirit. The spiritual thus gradually loses its identity, and, as a distinctive influence, tends to disappear from our lives. Thus the precious values of my land unpromised and unearned move, in our thoughts and feelings, over into the land of sale and barter, of commercials and price tags. And so, in the realms of sensory delight, of human relationships, of mental growth and transcendence, as in the world of automobiles, deep freezes, and stereo equipment, we get, as we say, only what we have earned, only what in some way we have paid for.

This spreading, creeping materialization of the spiritual appears even in the strongholds of educated thought and feeling. A few months ago a distinguished member of the board of regents of a great university was honored as the "1960 man of the year in
education.” In addressing the campus groups so honoring him, he said in part, “The primary purpose of schools is education, not social adjustment. Today’s youth should learn that all they get that is worthwhile they get by hard work.” And not long ago there appeared in the halls of my own institution a poster that read, “Be honest with yourselves. . . . Nothing worth having is free.” These were the pronouncements of men, seriously and deeply concerned about the mental and spiritual growth of young men and women.

The poster particularly troubled me, for it bore an imprimatur, an authorization, that I was especially disposed to respect. Impulsively I carried my grief to my students in literature. Did they believe that nothing worth having is free? Of course they did. Didn’t I? Hadn’t I read the poster in the hall? I had read it, but that didn’t preclude questions—or did it? Had they earned Chaucer, Shakespeare, Milton—“The Knight’s Tale,” “Hamlet,” “Paradise Lost”? Sure they had. Hadn’t they read them? I wondered about it, but, their titles to possession, such as they were, I left unchallenged. The discussion got out of hand. By the end of a wasted period, my neophytes had argued that they had earned the air by breathing it, food, by eating it, stomachs, by housing them—housing them as part of the standard equipment of their ontological being. Or was it equipment they had earned by some pre-existent effort? Regarding the gospel of work, they made no concessions, granted no exceptions—except perhaps the grace of God, and that only with equivocations. For them the principle of quid pro quo, something only for something, subsists in the warp and woof of the ethical universe as truly as it does in the standard ideology of business and industry. Just as our material world frowns darkly on those who would get something for nothing, and condemns especially the workman who would bring home an unearned dollar, so the heavens lower disapprovingly on men and women who would enjoy a love unearned, or a forgiveness unmerited.

But the gospel of work so extended is to me wholly untrue. Dare I say, wickedly untrue? It denies the existence of what to me is the most precious of realities—my land unpromised and unearned, my land with all its illimitable wealth, wealth of spirit given abundantly to men everywhere, without any cost to them or effort. Why, even my petunias and roses cry out in modest protest against it. Like the lilies of the Scriptures they toil not neither do they spin, yet theirs is a beauty and a fragrance which no labor can produce and no material wealth can buy. As I sit in the quiet
of summer evenings, catching, with the veering breeze, now the light elusive but exquisite scent of the petunias, now the heavier, more opulent sweetness of the roses, I know no sophistication of thought by which I can persuade myself that I have earned the pleasure they bring to me. Nor can all the materialists in the world convince me that such a pleasure is not worth having.

I offer my petunias and roses as a token of the unearned wealth of the world of the senses. How rich that world is, perhaps only the poets know. But they have said that all of us are Aeolian harps on which the breezes of the physical world everywhere play lightly, evoking responses proper to the infinitely varied and beautiful forms of Nature. Unfortunately, as harps, all of us are not equally sensitive and responsive. Few are Wordsworths. But, helped by the few, it is possible for the rest of us to sense much of the loveliness of Nature and to commune silently and deeply with her spirit. Who has ever followed Wordsworth from the celandine and daffodil to the mystic visions of “Tintern Abbey” and “The Prelude,” and not in a sense been born again, been caught up and away in spiritual transports quite ineffable?

Thus while the days flew by, and years passed on,
From Nature and her overflowing soul
I had received so much, that all my thoughts
Were steeped in feeling; I was only then
Contented, when with bliss ineffable
I felt the sentiment of Being spread
O’er all that moves and all that seemeth still;
O’er all that leaps and runs, and shouts and sings,
Or beats the gladsome air; o’er all that glides
Beneath the wave, yea, in the wave itself,
And mighty depth of waters. Wonder not
If high the transport, great the joy I felt
Communing in the soul through earth and heaven
With every form of creature, as it looked
Toward the Uncreated with a countenance
Of adoration, with an eye of love.
One song they sang, and it was audible,
Most audible, then, when the fleshy ear,
O’ercome by humblest prelude of that strain,
Forgot her functions, and slept undisturbed.

But, with or without the help of the poets, most of us have had our own unforgettable hours under the spell of sky and landscape. And in these later years, when fits of nostalgia overcome us, when we long to recapture from the past the experiences most precious in our memories, how frequently we would relive if we could the
moments when Nature seemed to give herself to us in the fulness or her beauty, or wonder, or mystery! Often with me it is the memory of a summer’s night on the dry farm at Robin, Idaho, a night when Marsh Valley lay softly breathing, drenched in moonlight and wrapped in silence, a silence which Wordsworth or Milton would call audible, a silence broken, not by the cricket—that unconscionable breaker of silences, in Nature as well as in student themes—but by the sudden, startled, antiphonal barking of farm dogs—Butch conversing with Rover across the wheat fields, and eliciting from far up the side of Old Tom the querulous howl of a coyote. Then the profound silence again, and the flooding moonlight, and the valley softly breathing—and, for at least one farm boy, a moving sense of wonder and mystery, not unmixed with fear. Or it is a glorious moment at Interlaken, when one stands among beds of flowers infinitely varied in kind and gorgeous in variegated colors, and looks across sloping lawns and fields to green foothills that rise abruptly into green mountains, which in turn tower up to barren summits, that separate to disclose in the distance Jungfrau resplendent in everlasting snow.

Or it is a warm mid-day reverie on a fjord in Norway. The boat is silent and at rest on blue waters, waters canopied by bluer skies, and bounded by a giant hedge of cliffs, covered and softened by velvet greenery, rain washed and glistening. There is a restful rhythmic sound of falling waters—streams from mountain tops behind the fjord rim, leaping from the skyline and rolling with foaming zest into quiet waters. There are drowsy thoughts about Beowulf and water trolls, and vagrant thoughts about H. G. Wells and his hero in India: always, Benham said, there must be jungles in the world; man, the Thought of the World, will always need jungles to conquer, jungles to test his manhood. Then there are sleepy ruminations on Matthew Arnold and his Weltschmerz,

... this strange disease of modern life
With its sick hurry, its divided aims,
Its heads o’ertaxed, its palsied hearts...

Then fjords again: always there must be fjords in Norway, clear, beautiful, virginal fjords, unconquered by man, untouched by the world of Arnold’s lament; quiet places remote from the sick hurry of getting and spending; restful places where men with o’ertaxed heads and palsied hearts can go for healing and restoration, go to see, hear, and feel Nature’s benediction—with no doctor bills to follow.
But it is when we turn to the realm of human relations in my land unpromised and unearned that some of us are most offended by the stern gospel of work, the hard doctrine of something only for something. We are offended because the doctrine repudiates a sentiment that warms and gives spiritual meaning to the whole world of human association, a sentiment in the experience of which we feel that we are living life in its finest dimension. I am speaking of gratitude. In the ethic of something only for something, gratitude has, of course, no place, because there everything possessed is something earned, something for which full value has been given. But in genuine gratitude there is always a sense of indebtedness. Our moments of sincere gratitude are moments when we feel with great certainty that we possess some of life's most precious things, and when we also feel with a deep humility that we are quite unworthy of them. To know human beings in living relationships, and to know them through the legacy of their thoughts, their feelings, their works of beauty, is to fill life with such moments.

And every life lived sensitively is filled with such moments. All of us can bear witness. Today when I recall my father and mother, my brothers and sisters, in the family circle of my boyhood, when I remember their interest in me, their solicitude about me, their love for me, their willingness, their eagerness to forgive me, to let me "start over," not once, but again and again, I know with an insight lent by the years that their interest, solicitude, love, and repeated forgiveness were priceless things given to me, not earned by me. And when I remember the enduring friendships, the unfailing goodwill, and the cheerful helpfulness of the boys and girls, the young men and women of my school, high school, and college days, when I remember the encouragement, the loyalty, the generous appreciation of my many students and fellow teachers through all the years, I know that their combined goodness to me has been a bountiful gift, in its richness, out of all proportion to any merit I ever possessed.

Gratitude in depth always humbles us. But it also lifts and sustains us. In the presence of the world's unaccountable goodness to us, the world's unaccountable tragedy is somehow softened. The worst seems endurable when all about us stand our friends and loved ones radiating a goodness that asks no questions about our deserts, that refuses to balance our mistakes, our sins, on the cold scales of distributive or retributive justice, but rather offers its healing and redemptive blessings according to our needs. Law,
logic, theology, the doctrine of something only for something, may dictate distributive or retributive justice, but the hearts of good men dictate creative justice, the justice that looks beyond what we are to what, through forgiveness, encouragement, and helpfulness, we may become. It is here that the best in men goes out to meet God. It is here that men are redeemed by the grace of their fellowmen, saved by a human goodness totally unearned.

But the realm of human relations includes more than our relations with the living. It includes also our relations with all who have lived in the past, who have lived and left us an inheritance of their thought, their feeling, their creativity. How can anyone aware of this inheritance speak of it except in terms of indebtedness, in terms of gratitude for a priceless possession never to be earned, but only to be appreciated? It would seem to me that the measure of our humanity is the degree to which we are participating in this human inheritance. We are hardly sharing in it, unless, wherever we are in the perplexing present, we meet the illuminating past; unless, in the voices and actions of the humanity of our time, we hear the echoes and feel the rhythms of things said and done long ago. We do not appreciate and understand the innate goodness of our world, unless in our souls we pay tribute to the thousands of our kind in the past who have had their Gethsemanes, carried their crosses, and taken upon themselves responsibility for the sins, the ignorance, the prejudice, the poverty, the callousness of their world. We have not really inherited our legacy of truth unless we have given the homage of our minds to the countless lovers of knowledge and wisdom—scientists and philosophers—who have toiled inquiringly and devotedly up their Sinais and returned to their followers with tablets inscribed with the finger of truth—which after all is the finger of God. We have not sensed the beauty of our cultural world, the beauty of its music, its painting, its poetry, unless we have come to it with eye, ear, imagination, and mind, sharpened, tuned, sensitized, disciplined, and made wise by the music, art, and poetry of the past.

In mapping roughly the provinces of my land of spirit, my land unpromised and unearned, I mentioned a realm of growth and transcendence, a place where truth is being discovered and accepted, where beauty is being created and appreciated, where goodness is being deepened and given expression in human life. Regarding humanity as a whole, talk about such a province is perhaps more a venture in faith than it is a look at reality. Human progress is tragically slow. The centuries roll wearily by, peopled
by human beings devoted to old convictions and old loyalties, cen-
turies filled with old prejudices, old hatreds, old brutalities, and
with old tragedies born of them all. But the venture of faith must
be made. We must believe that life is dynamic, creative, that its
normal course is a growing and a becoming, that in peoples, in
persons, and, indeed, in all things, there is a native impulse to-
ward something beyond what is. And philosophy in part agrees.
"Everything," says Paul Tillich, "wants to grow. It wants to in-
crease its power of being... Metaphorically speaking, one could
say that the molecule wants to become a crystal, the crystal a cell,
the cell a center of cells, the plant an animal, the man God." As
the green leaf has its growing edges, so humanity has its areas of
creativity, its places where inquiring and imaginative minds are
at work invading the unknown and shaping the unformed—
scientists discovering new facts, philosophers formulating new
systems of thought, artists fashioning new things of beauty, lovers
of men rising to new heights of service and devotion, prophets and
seers having new visions of God, of His ways and purposes. Most
of us do not dwell in these fertile fields, do not participate in the
cultivation and the quest, but we do share in the harvest. By the
labor of others we do grow and transcend ourselves.

As I write this, I hear voices that have been speaking to me
throughout my later years from my land unpromised and un-
earned, from its area of growth and transcendence—voices that
have illuminated dark places in my mind, helped me to reconsider
and redefine my ideals and purposes, enabled me to see life—all
of life—more steadily and whole. I hear them speaking to me
about my work as a teacher, about its unavoidable pains and its
unalterable purposes. There is the eloquent, beautiful voice of
George Santayana, teacher, artist, philosopher, world citizen. Only
the teacher, he is saying, who accepts himself as the depositary of
the past, who feels behind him, supporting him in the classroom,
the massive tradition of things established—government, eco-
nomics, morals, religion—can hope to teach with full assurance,
recognized authority, and good conscience. But the teacher com-
mitted to two worlds—the world of the established order and
the world of creativity, of growth and transcendence—can teach
only precariously and dangerously. Often the best that is in him
he can not, or must not, or dare not teach. And since the best that
is in him is something spiritual, to withhold it is often to lose it,

*From *Love, Power and Justice*, with permission from Oxford University Press, publishers.
and to lose it is to leave his own life and perhaps the lives of his
students forever poorer.

And there is an unforgettable voice from India, the voice of
Radhakrishnan, philosopher, scholar, statesman, seer. It speaks
to me through the word, both written and spoken. No hour of my
life is more memorable than one during which I sat at the feet of
this great man from the Orient. The true teacher, I hear him say-
ing, helps his students to get along without him, helps them to
deepen their own insight not to alter their present views. His aim
is not disciples dependent on his leadership, his wisdom, but men
of deeply informed minds freely choosing their own truth and
living in the light of it. Mind is fate, he is saying. "If we believe
absurdities, we shall commit atrocities" — a truth that explains the
darkest pages in history, and portends dark ones yet to be written.
"Thou shalt not suffer a witch to live," says the Bible. Men be-
lieved this absurdity, and hundreds of thousands of wretched, in-
ocent old women, in the old and in the new world, died at the
stake. White men for centuries have believed absurdities about
black men, and black men by the millions have been enslaved or
submerged—even in the land of promise, the land of liberty. As
nowhere else, absurdities persist and flourish in religion. Much of
the good earth of the Western World has been stained with the
blood of men who fought one another in the names of Christ and
Mohammed, or, most paradoxically, fought one another in the
name of Christ as Catholics and Protestants. All of which, Rad-
hakrishnan is saying, is utterly hostile to the spirit of true religion.
True religion removes conflicts everywhere. It puts man at peace
with himself and with all other men. It gives him inner in-
tegrity and outer compassion. There is something wrong with a
religion that puts head and heart, mind and emotion, knowledge
and faith, at odds with one another. Religion is not doing what
religion ought to do if it fails to draw people of all faiths together
in mutual respect and sympathy. "My religious sense," Radhak-
rishnan is saying, "does not allow me to speak a rash or profane
word of anything which the souls of other men have held sacred.
This attitude of respect for all creeds, this elementary good manners
in matters of spirit is bred in the marrow of my bones by the Hindu
tradition." Standing in the forest and looking at the trunks of the
trees, one is impressed by their separateness, their distinctiveness,
but one knows that beneath the surface of the ground their roots
mingle and draw nourishment from the same soil; and looking
up one sees their tops touching and intertwining in the same sky.
So it is with the religions of the world. They show differences in theology and ritual, but they spring from the same spiritual soil—man's imperative need to come to intelligible terms with his world, his universe. All find their supreme fruition in men of noble character, profound insight, and unbounded compassion.

Certainly out on the growing margins of the race, where humanity is consciously and unconsciously striving to transcend itself, stands Albert Schweitzer, the prophet in the wilderness of Lambarené. And certainly of all the men who proclaim the failure of our Western World, and offer a philosophy of redemption, no one else has been heard farther or with more respect than this artist, theologian, scholar, doctor, saint. In his vision, our civilization, obsessed with its material aims and ambitions, sterile in its mental powers and spiritual insights, is a vessel with defective steering gear, drifting with accelerated pace toward certain catastrophe. Only a restored faith in the informed and rational mind, and a religion suffused with the love that Jesus taught and exemplified, a love universalized into a Reverence for Life, all life, can avert complete destruction. Every life lived in the midst of life must became cognizant of the life that surrounds it. Even as the wave cannot exist for itself, but is a part of the heaving surface of the sea, so a man may never live his life for itself, but only as part of the total experience of living going on around him. Reverence for Life forces everyone to concern himself with all human destinies, the life destinies, which run their course in his own area of life. Reverence for Life requires every man to give himself as a man to the man who needs him most.

Santayana, Radhakrishnan, Schweitzer, and a thousand others who have spoken to me in life and in literature—only in a pride born of folly, or in an arrogance amounting to sin, could I regard them as something I have earned, something for which I have worked. Truth and modesty see them only for what they are—great, vibrant personalities, standing within the human inheritance, or out on the frontiers of a growing, a transcending human experience, radiating naturally and freely to all the world the goodness, beauty, and truth within them.

From time to time life has a way of summarizing itself, a way of revealing its essence, of saying what really matters in all of its bewilderment. Such a summary or distillation came to me one day and night in Rome. I felt then as I feel today, that my land unpromised and unearned is indeed the ultimate, the enduring reality, that its substance is spirit, that its authentic provinces are
regions of sensory delight, of human associations, of human growth and transcendence. The day had been crowded with human associations. There were walks and talks with Roman ghosts, venerable and benign spirits old in my acquaintance. Boethius of the *Consolations of Philosophy* was there, a noble Roman, awaiting death and writing an immortal book. Pope Gregory of the *Pastoral Care* was there, the devout lover of God, people, and puns. He saw in Angle boys in the Roman slave market pagan angels to whose far away people he must one day send the saving message of Christ. And Marcus Aurelius of the *Meditations* was there, the noblest Roman of them all, to this day the special friend and aider of all who would live in the spirit. Amazing and inspiring paradox! A great pagan emperor sincerely grateful that as a boy he had been taught to work with his hands, profoundly thankful that no one had ever told him that he hadn’t time to do the many kind little things that needed to be done. Commander of Rome’s military might in the field, sitting in his tent at night, meditating "a polity in which there is the same law for all, a polity administered with regard to equal rights and equal freedom of speech, and the idea of a government which respects most the freedom of the governed”—this hundreds of years before our founding fathers. And Shakespeare of the "Roman plays" was there, there with me beside the Tiber:

I, as Aeneas our great ancestor
Did from the flames of Troy upon his shoulder
The old Anchises bear, so from the waves of Tiber
Did I the tired Caesar.

And, perhaps most unexpectedly, Milton and "Paradise Lost" were there—Pandemonium in Saint Peters!

From the arched roof
Pendent by subtle magic many a row
Of starry lamps and blazing cressets fed
With naptha and asphaltus yielded light
As from the sky.

And Vergil was there, the poet immortal who sang gloriously the founding of Rome, sang of its relentless travail, its bitter pain and tears, its

progeny divine
Of Romans, rising from the Trojan line
In after times to hold the world in awe
And to the land and ocean give the law.
Ghosts of Vergil and the German Lessing stood beside me in the Vatican Museum, where the Laocoön statuary stands alone in awesome and tragic beauty, Vergil to relate the tragic story, and Lessing to expound the sculptor's art. And Michelangelo was everywhere, now beside his "Pieta" in the nave of Saint Peters, now beneath the ceiling of the Sistine Chapel, then with his "Moses" who sits with the aura of Sinai in the Basilica of Saint Peter in Chains.

Then night came with its summation and transcendence. The very air was redolent with delight for the senses and the spirit. The Eternal City, the City of the Seven Hills, with all its wealth of beauty—its ruins and its statuary, its parks and its fountains, its temples and its basilicas—bathed in a moonlight as magical as the moonlight that drenched the wheat fields of Marsh Valley in the days of my youth. And music was in the air—Verdi and Aïda, in the Caracalla, "Celeste Aïda," and "O terra addio" under the Roman moon and stars. Precious human association was there. Ruth was beside me, Ruth, whose life had shown me daily for more than forty years how sweet, sustaining and inspiring—and totally unearned—a woman and her love can be. It was an experience suffused with a mystical sense of rapport, of perfect oneness with the whole of things beautiful and good. It was a time of resolution and commitment. I knew then what Wordsworth meant when he wrote:

I made no vows, but vows
Were then made for me; bond unknown to me
Was given, that I should be, else sinning greatly,
A dedicated spirit. On I walked
In thankful blessedness, which yet survives.
Increasing the Quality of Patient Care through Performance Counseling and Written Goal Setting

Elaine D. Dyer, Mary A. Monson, Maxine J. Cope

Patient care scores of staff nurses in seven Veterans Administration hospitals who used a performance counseling protocol that required written goal setting, coupled with head nurse modeling and support to achieve goals (experimental), were compared with scores of nurses who continued with usual practice (control). Staff nurses chose their own goals. One goal was to improve patient care and the other was to improve staff nurse professional competence. After six months, experimental group scores were higher on five patient care scales, one significantly. After 12 months, scores shifted in favor of the control group, one significantly. Experimental group scores were higher on patient interview questions after six months and made additional gains after 12 months. Experimental nurses generally were more satisfied with their nursing careers and described working relationships more positively. Some progress the experimental nurses made after six months was lost after 12 months. Nurses who received high patient care scores from outside observers described the hospital working environment in more positive terms. Relationships of three instruments that measure quality of patient care are presented.

Leaders in business management for a number of years and nursing leaders more recently have tied performance evaluation directly to the management process and accomplishment of objectives (Asso-

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The psychology literature continues to support the premise that behavior of respected people and those higher on the administrative ladder can produce behavior changes in staff members who observe the behavior. Conditions that initiate change as specified in the literature are realistic for implementation in the world of work. Ronan et al. (1973) studied goal setting and supervision in an industrial situation and concluded that goal setting was correlated with high productivity and a low number of injuries only when it was accompanied by supportive supervision. Goal setting without support of the immediate supervisor was related to employee turnover. Supervision alone did not correlate with any criterion. Kumboltz and Thoresen (1969) suggested written goal setting as a means of increasing individual motivation toward accomplishing objectives.

Human behavior research has demonstrated the value of immediate and continuing reward in eliciting or producing behavior on a repeated basis (Greenspoon, 1955, 1962; Lindsley, 1959, 1963; Matarazzo and Weins, 1967; Matarazzo et al., 1960, 1964; White and Maguire, 1973). Dell (1973) studied behavior change through counseling and found that volunteer college students could be induced to make important behavior changes that had been discussed and deemed important in a counseling session. The counselor had no administrative standing or control over the student.

Bandura (1962, 1963), Bandura and Huston (1961), Bandura and McDonald (1963), and Bandura et al., (1961, 1963a and b) indicated a positive relationship between a significant person's behavior and behavior of others. Dyer et al. (1972) continued to demonstrate significant, positive relationships between staff nurse descriptions of head nurse behavior and head nurse descriptions of staff nurse performance. Combining the information from these studies into an approach for improving patient care and staff nurse satisfaction provided the basic framework for study. It was expected that setting mutually agreed upon written goals by the staff and head nurse, coupled with head nurse recognition of staff nurse progress toward achieving goals between counseling sessions, would result in greater staff nurse progress toward achieving goals and
greater staff nurse satisfaction. It was also expected that head nurse modeling of desired behaviors would influence staff nurse performance positively.

**HYPOTHESES.** Three hypothesis were tested in this study.

I. Use of a specified counseling protocol will increase level of patient care.

II. Use of a specified counseling protocol will increase personal satisfaction of the nurse as she progresses toward her career goals.

III. High quality patient care is related to a positive ward psychological atmosphere.

**METHOD.** The study was designed to test the effect of a specified counseling and performance management protocol on the quality level of patient care. Conditions were structured in seven Veterans Administration hospitals to compare nurses who used participative management by written objectives, modeling, and timely recognition of desired behaviors with nurses who continued to follow their usual practices. Hospital practices consisted of reviewing performance annually, using the Proficiency Rating scale. Items such as dependability, teaching effectiveness, observation ability, and patient care ability were rated on an eight-point scale. The staff nurse signed the report indicating the rating had been reviewed. Unusually good or poor performance was pointed out on an ongoing basis.

The performance evaluation period on experimental wards was used to set written objectives important to the staff nurse. Two goals were set, one to improve patient care on the ward and a second to help the staff nurse improve her professional competence. New goals were set whenever previously set goals were achieved. The head nurse was responsible for facilitating accomplishment of goals by providing the staff nurse with opportunities to complete her goals and providing positive feedback for efforts toward obtaining them. In other words, after the staff nurse and head nurse agreed that goals were important and realistic, the head nurse was responsible for providing opportunities and encouragement for the staff nurse to achieve her goals.

Measures of quality care, personal satisfaction, and hospital climate were obtained on both experimental and control staff nurses before the experimental protocol was introduced and six and 12 months after the protocol was in effect. Relationships were studied using correlations and item analyses. Differences were studied using $t$-tests.
Measuring Instruments. Three instruments were used to assess quality level of patient care: the Veterans Administration (VA) Nursing Care Quality evaluation (NCQE), the Wayne State University Quality Patient Care scale (QualPaCS), and a patient interview. Two other measuring instruments were used: the Personal Satisfaction inventory (PSI) and the Hospital Climate inventory (HCI).

The NCQE was developed in 1969 by a VA Central Office task force consisting of nurse clinicians, nurse administrators, management systems personnel, and consultants (U.S. VA, 1969). Items in final form had been scrutinized by several hundred nurses and were considered to be important indicators of patient care. Items were built to be observable on a yes, no, or not applicable basis. Scores for subscales are determined by dividing the total number of yes responses by total number of applicable responses. Seventy-one items of the instrument define 14 areas considered to be important in patient care. Six areas are applicable only with patients who receive various types of special care. Major areas of the instrument are named: symptoms, identification, personal hygiene, welfare and comfort, immediate environment, restraints and protective-safety measures, dressings-compresses-bandages-binding, intubation-infusion therapy, preventative-supportive-assistive therapy, special precautions, other bedside therapy, physician’s orders, nursing notes, and nursing care plan.

The first four areas (13 questions) were combined in this study and called comfort and safety; the next seven questions defined the environment scale; the next seven areas or 24 questions defined special therapy. The physician’s orders area was not used. The nursing notes area consisted of seven questions, and the nursing care plan scale had 14 questions. A total score was obtained by totaling five subscale scores.

The QualPaCS, adapted by Wandelt and Ager (1970) from scales developed by Slater (1967), consists of six scales which can be summed to a total score. Five subscales were used: psychosocial, physical, general, communication, and professional implications. Each scale consists of seven to 15 items.

The patient interview consists of eight questions which define nurse-patient relationships from the patient’s point of view. The first six questions pertain directly to the nurse. The last two questions ask specifically for nursing activities the patient liked or disliked during the previous 24 hours.
The PSI, developed for use in this study, aims at determining satisfaction with: 1) choice of nursing as a career, 2) professional role and use of professional abilities, 3) progress toward career goals, and 4) quality of patient care given in the hospital. A total of 301 nurses and three measurement psychologists reviewed the potential questions for clarity, specificity, completeness, and indicators of satisfaction. Retest reliabilities after four to six weeks in seven hospitals ranged from .68 to .94. Subjects ranged from six to 35 nurses.

The HCI, also developed for use in this study, aims at determining adequacy of communication and working relationships of the health care team. Staff nurses rated themselves, peers, two levels of supervision, subordinates, and physicians on the same questions. Adequacy of hospital policies, staffing, equipment, and physical plant were assessed. A total of 299 nurses and three measurement psychologists reviewed the potential question for clarity, specificity, completeness, and indicators of hospital climate. Retest reliabilities in seven hospitals after four to six weeks ranged from .75 to .96. Subjects ranged from six to 35 nurses.

Observers for Patient Care. Four registered nurse observers who completed the NCQE, QualPaCS, and patient interview were trained to an 85 percent agreement level when they made observations simultaneously of a patient care situation. Observers were trained in a local VA hospital before being sent to participating hospitals to measure care. They were unaware of experimental or control status of wards they observed. Three observers had obtained the masters degree in medical-surgical nursing and one a doctorate in educational psychology. An observer spent two to three hours per ward on each of three occasions. Quality of patient care was observed before the study began and six to 12 months later.

Selection of Hospitals and Assignment of Experimental Condition. Hospitals were matched and selected on the basis of bed capacity (400-600), medical and nursing school affiliations, similar bed occupancy, patient turnover rates, and geographic location. The northeast section of the country was avoided because of work recently completed in that area using the same measuring instruments. Two hospitals were located in the South, two in the Midwest, and three on the West Coast. Only medical and surgical wards were studied. Three hospitals used the research protocol on all wards; three on half of the wards, with half used as control; and one hospital was entirely control. It was believed that conditions on medi-
cal-surgical wards in the VA system would be similar enough to be comparable across hospitals. Nursing administration in the study hospitals assisted in dividing the wards to approximate equality before the experimental conditions were randomly selected.

Subjects. All staff nurses from experimental and control wards were eligible to participate. They were asked to complete the PSI and HCI on three occasions at six-month intervals.

Three hundred and eighty-seven registered staff nurses from 60 medical-surgical wards in seven VA hospitals were studied. On occasion one, 387 staff nurses completed the packet of inventories; on occasion two, 341; and on occasion three, 286. There were 325 nurses who participated on both first and second occasions and 280 who participated on all three occasions. Less than one percent elected not to participate. Twelve nurses dropped out of the study.

On occasion one, 149 nurses were observed using NCQE, Qual-PaCS, and patient interview; on occasion two, 168; and on occasion three, 186. The number of staff nurses who were observed and who also completed packets was 149 on the first occasion, 92 on the first and second occasions, and 57 on all three occasions.

Approximately 30 percent of the nurses who started the study left VA before the end of the year. Another 12 percent changed wards or assignment. Twenty-five head nurses changed assignment. As a result of these changes, only about 40 percent of the staff nurses who began the study were working on the same ward with the same head nurse at the conclusion of the project.

Average age of the nurse was 42 with a standard deviation of 12 years. Educational preparation of the nurses was: diploma, 48 percent; associate degree, 14 percent; baccalaureate degree, 30 percent; and pursuing an advanced degree, eight percent.

Training of Head Nurses. Head nurses on experimental wards participated in a two-day workshop to learn more about management by objectives and use of performance counseling and written goal setting to achieve objectives. The modeling literature and impact of their own behavior were discussed. Selected articles were sent to head nurses on experimental units so they were ready to present results during the workshop. Head nurses were given opportunities to role play counseling situations that required the setting of objectives. Discussion and practice were provided concerning appropriate reinforcements. Head nurses from experimental wards were asked specifically to discuss problems or questions only with people associated with experimental conditions.
Head nurses on control wards participated in meetings which oriented them to the study. The stated purpose of the study to control head nurses was to evaluate factors affecting patient care. Experimental conditions were not discussed.

Procedure. Questionnaires were administered on a 24-hour basis to small groups. Staff nurses were scheduled to meet in the nursing education classroom and given duty time to complete the questionnaires. Most completed the packet in the allotted time. Those who did not were permitted to take the questionnaires home and return them the next day or return them by mail in a stamped, project-addressed envelope. Staff nurses removed the tearoff label from their packet when they returned the completed forms. A numbering system preserved the investigators' ability to tie together individual materials from the three occasions. Data were key punched and transferred to magnetic tape for computer analysis.

Results. Hypothesis I. A comparison of patient care scores from experimental and control wards using independent t-tests indicated that use of a specified counseling protocol could change quality level of care but not over a sustained period of time. At the end of six months, means of all QualPaC scales shifted in favor of the experimental group and one scale, communication, changed significantly. Positive change in QualPaCS total scores just missed statistical significance at the .05 level. After 12 months, means of QualPaCS scores shifted in favor of the control group. One scale, psychosocial, changed a significant amount (Table 1).

Patient care as measured by the NCQE indicated changes in the same direction as QualPaCS scores, that is, more positive scores for the experimental group after six months and change toward the control group after 12 months. Changes were not statistically significant (Table 1).

Comparison of experimental and control patient interview questions showed a shift toward more favorable answers for the experimental group after six months on four of six patient interview questions; one change was statistically significant, "Are the nurses kind to your visitors?" (p = .05). Comparisons of change between six- and 12-month periods indicated the experimental group made additional gains on "the patient knowing the name of the nurse responsible for his care," "the light being answered more promptly," "the nurse listening to patients," and "the nurse explaining treatments and procedures before proceeding with them," but they missed significance.
TABLE 1. T-Values Showing Qual PaCS and NCQE Differences between Experimental and Control Ward at Six- and 12-Month Intervals (N=50 Wards)

<table>
<thead>
<tr>
<th>SCALES</th>
<th>AFTER 6 MONTHS</th>
<th>AFTER 12 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qual PaCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosocial</td>
<td>1.50</td>
<td>−2.01*</td>
</tr>
<tr>
<td>Physical</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>General</td>
<td>1.18</td>
<td>−1.17</td>
</tr>
<tr>
<td>Communication</td>
<td>3.00*</td>
<td>−0.51</td>
</tr>
<tr>
<td>Professional implication</td>
<td>1.20</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>1.98</td>
<td>−0.91</td>
</tr>
<tr>
<td>NCQE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort and safety</td>
<td>0.90</td>
<td>−0.15</td>
</tr>
<tr>
<td>Environment</td>
<td>0.40</td>
<td>−0.15</td>
</tr>
<tr>
<td>Special therapy</td>
<td>0.20</td>
<td>−0.50</td>
</tr>
<tr>
<td>Nursing notes</td>
<td>0.97</td>
<td>1.05</td>
</tr>
<tr>
<td>Nursing care plan</td>
<td>1.92</td>
<td>−1.27</td>
</tr>
<tr>
<td>Total</td>
<td>1.81</td>
<td>−0.97</td>
</tr>
</tbody>
</table>

*p = .05

Negative sign of t-value indicates means of control group was higher

Intercorrelations of the three patient care measuring instruments are instructive for clinicians or researchers looking for measures of various aspects of patient care. Patient interview questions had a number of significant relationships with NCQE and QualPaCS (Table 2). Relationships were progressively stronger on second and third occasions. Table 3 shows relationships of NCQE and QualPaCS. There were a number of significant correlations on the first occasion that became stronger and more numerous across time. The NCQE environmental scale had weaker relationships with QualPaC scales and also had lowest correlations with other scales on NCQE. Correlations or nursing care plan scale of NCQE with QualPaC scales were comparatively lower on the third occasion.

Hypothesis I was rejected because the change in favor of the experimental group was not sustained.

Hypothesis II. Questions from the personal satisfaction inventory were analyzed, using independent t-tests to determine significant differences between experimental and control groups. Differences were determined in three six-month periods. There were 189 experimental nurses and 112 control nurses for a total of 301 in most comparisons. Missing data sometimes altered the sample size slightly. A t-value of 1.96 was significant at the .05 level for this size sample.

Significant differences (p<.05) were found between answers given by experimental and control groups between the first and second occasions when experimental nurses believed performance
### TABLE 2. Correlations of NCQE and Qual PaCS with Patient Care Interview over Three Occasions (N=60 Wards)

<table>
<thead>
<tr>
<th>PATIENT INTERVIEW QUESTIONS</th>
<th>Qual PaCS</th>
<th>NCQE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COMFORT AND SAFETY</td>
<td>ENVIRONMENT</td>
</tr>
<tr>
<td>First Occasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know RN's name</td>
<td>-.24</td>
<td>.01</td>
</tr>
<tr>
<td>Kind to you</td>
<td>.02</td>
<td>.14</td>
</tr>
<tr>
<td>Kind to visitors</td>
<td>.15</td>
<td>.23</td>
</tr>
<tr>
<td>Light answ promptly</td>
<td>.08</td>
<td>.28</td>
</tr>
<tr>
<td>RN listens</td>
<td>.00</td>
<td>.21</td>
</tr>
<tr>
<td>RN explains</td>
<td>-.31</td>
<td>.23</td>
</tr>
<tr>
<td>Second Occasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know RN's name</td>
<td>-.29</td>
<td>.28</td>
</tr>
<tr>
<td>Kind to you</td>
<td>-.23</td>
<td>.03</td>
</tr>
<tr>
<td>Kind to visitors</td>
<td>-.07</td>
<td>-.29</td>
</tr>
<tr>
<td>Light answ promptly</td>
<td>-.19</td>
<td>.32</td>
</tr>
<tr>
<td>RN listens</td>
<td>-.38</td>
<td>.14</td>
</tr>
<tr>
<td>RN explains</td>
<td>-.12</td>
<td>.31</td>
</tr>
<tr>
<td>Third Occasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know RN's name</td>
<td>-.25</td>
<td>-.03</td>
</tr>
<tr>
<td>Kind to you</td>
<td>-.20</td>
<td>-.10</td>
</tr>
<tr>
<td>Kind to visitors</td>
<td>-.34</td>
<td>-.15</td>
</tr>
<tr>
<td>Light answ promptly</td>
<td>-.21</td>
<td>.27</td>
</tr>
<tr>
<td>RN listens</td>
<td>-.17</td>
<td>.11</td>
</tr>
<tr>
<td>RN explains</td>
<td>.01</td>
<td>.25</td>
</tr>
</tbody>
</table>

\(^1\)NCQE and Qual PaCS scales were positive; patient interview scales were negative

\(^2\)p \leq .05.
reviews were directed toward helping them achieve their professional goals ($t=2.57$) and experimental nurses believed their immediate supervisor expected them to make significant contributions to nursing ($t=2.33$). Significant differences ($p<.05$) between the two groups were found between the second and third occasions when experimental nurses believed their jobs were more important ($t=2.59$); experimental nurses thought their research capabilities were better utilized ($t=1.98$); experimental nurses believed their teaching capabilities were better utilized ($t=2.19$); experimental nurses said they were more disappointed or discouraged following counseling ($t=1.97$); and experimental nurses said their second-

<table>
<thead>
<tr>
<th>QUAL PACS ITEMS</th>
<th>COMFORT AND SAFETY</th>
<th>ENVIRONMENT</th>
<th>SPECIAL THERAPY</th>
<th>RN NOTES</th>
<th>RN PLAN</th>
<th>TOTAL</th>
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<td>.01</td>
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<tr>
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<td>.05</td>
<td>.05</td>
<td>.10</td>
<td>.11</td>
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<td>.04</td>
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<td>.02</td>
<td>.16</td>
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<td>.35*</td>
<td>.38*</td>
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<td>Professional implications</td>
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<td>.06</td>
<td>.18</td>
<td>.02</td>
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<td>.22</td>
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<tr>
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<td>.09</td>
<td>.18</td>
<td>.16</td>
<td>.21</td>
<td>.25*</td>
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<tr>
<td><strong>Second Occasion</strong></td>
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<td>.15</td>
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<td>.29*</td>
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<td>-.05</td>
<td>.37*</td>
<td>.19</td>
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<td>.03</td>
<td>.34*</td>
<td>.27*</td>
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<td>.58*</td>
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<tr>
<td>Professional implications</td>
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<td>-.13</td>
<td>.19</td>
<td>.19</td>
<td>.21</td>
<td>.24</td>
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<tr>
<td>Total</td>
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<td>-.05</td>
<td>.35*</td>
<td>.24</td>
<td>.33*</td>
<td>.42*</td>
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<td><strong>Third Occasion</strong></td>
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</tr>
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<td>-.15</td>
<td>.41*</td>
<td>.44*</td>
<td>.10</td>
<td>.38*</td>
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<tr>
<td>Physical</td>
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<td>.09</td>
<td>.35*</td>
<td>.29*</td>
<td>.30*</td>
<td>.46*</td>
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<tr>
<td>General</td>
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<td>.57*</td>
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<td>.54*</td>
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<tr>
<td>Communications</td>
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<td>-.07</td>
<td>.40*</td>
<td>.55*</td>
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<td>.46*</td>
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<tr>
<td>Professional implications</td>
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<td>-.08</td>
<td>.39*</td>
<td>.56*</td>
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<td>.44*</td>
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<tr>
<td>Total</td>
<td>.39*</td>
<td>-.03</td>
<td>.44*</td>
<td>.61*</td>
<td>.21</td>
<td>.54*</td>
</tr>
</tbody>
</table>

*p ≤ .05

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level supervisor was less willing to help them reach their goals ($t = 1.99$).

Experimental nurses made more positive statements after six and 12 months except they felt discouraged after their counseling sessions. They were less certain the second-level supervisor would help them with their goals. Hypothesis II was, therefore, accepted, since statements of experimental nurses were positive at significant levels.

Hypothesis III. Comparisons of hospital climate scores divided according to nurses who scored high or low on the QualPaCS total were made using an item analysis which computes an eta and standard error for each question and for each question alternative a biserial, standard error, N, and percentage. The following relationships were significant ($p < .05$). (After each statement the correlation and standard error are listed.)

Nurses who received high QualPaCS total scores described the climate in the following terms:

The head nurse helps others achieve their goals (.22, .10); the head nurse has ability to evaluate performance (.43, .12); the head nurse accepts responsibility for her actions (.27, .11); the head nurse identifies and rewards outstanding performance (.24, .08); the head nurse or supervisor facilitates staff efficiency (.18, .08); work assignments inhibit staff nurse efficiency (.30, .14); staff nurse peers sometimes point out ways for subordinates to improve (.17, .08); the staff nurse herself feels challenged by her work (.26, .10); the hospital always provides the staff nurse personally with opportunities to continue her education (.27, .10); training is provided for using new equipment (.19, .09); the head nurse uses her position to improve care (.19, .09).

Nurses who received high QualPaCS total scores described the climate in the following terms:

The head nurse helps make nursing care plans to a considerable extent (.20, .08); the head nurse does not identify and reward outstanding performance (.26, .08); salary is somewhat inadequate (.34, .12); the head nurse has limited ability to evaluate performance (.27, .11); the head nurse has limited breadth of knowledge (.35, .14); the head nurse talks down to personnel (.30, .10); staff nurse peers point out ways for subordinates to improve most of the time (.18, .08); staff nurse peers know how their work fits into other hospital work only about half the time (.25, .10); the hospital provides the individual staff nurse with opportunities to continue her education most of the time (.19, .08); the head nurse uses her
position as a status symbol rather than to improve patient care (33, 11).

Nurses who received highest patient care scores from observers who were not connected with the hospital described the hospital and ward climate in more positive terms. Nurses who received highest performance ratings also described hospital climate in more positive terms. Patient care scores and nurse satisfaction scores have direct relationships.

Hypothesis III was accepted. Nurses who received high patient care scores described the hospital climate in more positive terms.

A review of specificity, number, and type of objectives mutually set between staff and head nurse was also instructive. When objectives were divided according to head nurse education, it was evident that better head nurse education was positively related to setting objectives that were more patient-care-oriented, more specific, and more attainable during the study period, as, for example, teaching patients colostomy care, instructing family in posthospital diet and activities for ulcer patients. Head nurses with less than a baccalaureate degree allowed their staff nurses to set goals that were rather nebulous and more often associated with improving the patient's environment or records, as, for example, reading the literature and sharing information in staff meetings.

Better head nurse education was also associated with positive changes in quality of patient care. In one hospital when head nurses with less than bachelors preparation were excluded from the data analysis, significant changes occurred in patient care. When all nine wards were included, the t-value was 1.37; when the two nurses with less than bachelors preparation were excluded, the t-value was 2.75.

Evaluation of nursing actions described by 485 patients as most satisfying or annoying indicated it was the small personal things a nurse either did or omitted that were mentioned most often. Patients seemed less concerned with professional competence of nurses than they were with courteous, prompt, and respectful interactions. Discussion. Introduction of management by objectives on a ward level, coupled with written goal setting between the staff and the head nurses, resulted in a positive shift in QualPaCS at the end of six months. Explanation for the scores shifting after 12 months, on both NCQE and QualPaCS in favor of the control group was not clear. Possibly, changes in care were small and insufficient numbers of patient observations were made to obtain stable measures. Changes were probably uneven and measures may have been ob-
tained at times when fluctuations were smallest. One event occurred that helped to reduce differences between experimental and control wards. One all control hospital had prepared for a hospital accreditation visit that occurred two days prior to the final arrival of the observers. It seems clear that observations made on a weekly basis for a period of six months would determine more accurately direction and extent of changes that may be occurring.

The Personal Satisfaction inventory indicated favorable changes for the experimental group after six and 12 months, but a slightly discouraged feeling was present at the end of 12 months; why the experimental group nurses were discouraged was not clear. Possibly, head nurses pressed to have all staff nurse objectives completed by the end of the study—which aroused staff nurse resentment. Head nurses could have used more help in implementing the research protocol than was given to them in two visits spaced six months apart. Having someone immediately available to answer questions, check on progress, and give support would have helped the head nurses.

From descriptions of hospital climate by staff nurses who were scored high by outside observers on patient care measures, it was clear that nurses who gave best patient care had more positive feelings about the work situation. High-scoring staff nurses felt particularly positive about their head nurses. On the other hand, nurses who were given low scores by outside observers had more negative feelings about hospital climate, particularly their head nurses. This is especially instructive since high scores on quality care measures were not highly correlated with performance scores completed by various supervisory levels.

Both staff nurse and head nurse education were associated positively with quality of patient care scores, often at significant levels. These relationships should be studied in more detail.

Constant changing of nurse assignments made it difficult to study that area. Obtaining more observations per nurse and thus per ward over a shorter but continuing period of time would help to stabilize findings and give a better understanding of what is taking place as a consequence of introducing the counseling protocol.

REFERENCES


Bandura, Albert. Social Learning through Imitation, In Nebraska a Symposium on


Wayne State University, 1967.

Slater, Doris. The Slater Nursing Competencies Scale. Detroit, College of Nursing, Wayne State University, 1967.


Wandel, Mabel, and Ager, Joel. Wayne State Quality Patient Care Scale. Detroit College of Nursing, Wayne State University, 1970.

From Pebbles to Commutators

Donald W. Robinson

Upon review of the list of annual Sigma Xi lectures given on this campus, I noted that this marks the first time that a mathematician has been invited to participate. Since mathematics is often referred to as the "Queen of the Sciences," this seemed at first an affront to her Majesty. But, upon further reflection, I considered the possibility that the selection committees for the preceding lectures had been moved by the words of St. Augustine: "The good Christian should beware of mathematicians and all those who make empty prophecies. The danger already exists that mathematicians have made a covenant with the devil to darken the spirit and confine man in the bonds of Hell." Since the selection committee for this lecture has obviously failed to heed this warning, I accept this opportunity to plead innocent of any such charge. Indeed, although admitting the fact that the Queen readily rejects many who wish to know her, my purpose is not to "cast you into outer darkness," but rather to illuminate some of the facets of her remarkable life.

In order to avoid the customary effects of frustration and disappointment that are suffered by an audience before the Queen, we will clear her court of the mass of grubby little details and technical paraphernalia that surround her. On the other hand, in order properly to acquaint you with her, it will be necessary to speak her language much of the time. Moreover, since on an occasion such as this the topic of conversation is somewhat arbitrary, it should be stated that my personal tastes and interests alone have dictated the choice. Thus, it is hoped that you may sense through and beyond this particular message to a better understanding of and an appreciation for the Queen herself.

To most of us the word "mathematics" is associated with some form of the word "calculation." Thus, it seems appropriate to begin
with the observation that the word is derived from the word *calculi*. The Romans used it as the name of a counting device that was made of stone. Indeed, the Latin noun *calculus* means "pebble" and is the derivative of *calx*, a piece of limestone. Thus, to calculate means literally to pebble, and a calculator is one who works with pebbles.

Our work will be with some pebbles. First, we shall present in brief allegory the birth and early development of the science of numbers and computation. Second, we shall recall some historical facts and identify some of the significant mathematical pebbles of the past. Finally, in order to meet the requirements of this lecture, which is to speak on some aspect of my own research, we shall investigate one particular pebble. Although I do not intend to present the complete details of this one pebble, it is hoped that you will be sufficiently motivated at least to perceive why I wanted to "crack it."

Imagine a shepherd who is tending his sheep. In the morning he allows them to leave the safety of their enclosure and go off to graze, and in the evening he gathers them back into the fold. Most shepherds know their sheep. But this one has a short memory, and as such looks for a machine to help him keep track of his flock. He collects some pebbles and procures a pouch. As each sheep leaves in the morning he places a pebble in the pouch. In the evening he removes one pebble for each sheep as it returns. If he has pebbles left over, then he goes out in search of his lost sheep; if he has extra sheep, then—well—he lets the other shepherds worry. The shepherd has solved his problem by simply matching the pebbles with the sheep.

One day the shepherd decides to speed up the process of sending off his sheep. He assigns his son to one gate, and he takes another. As the sheep depart, each assembles a collection of pebbles as before, which are later all put into one bag. He seems to sense that the matching is still all right, and in fact that it does not matter whether he or his son first place the pebbles in the bag.

Let us now bring out the mathematician in the shepherd. He recognizes in his flock a collection of objects. His matching in a one-to-one way leads him to the process of counting and eventually to the concept of number. The combination of two piles of pebbles introduces the notion of an operation—addition. Finally, his observation of the fact that it does not matter which comes first suggests some kind of a principle—commutativity.

Of course, the shepherd does not stop here. More sophisticated problems prompt him to improve his newly discovered tool. He en-
larges his concept of number to include other objects such as negatives and fractions. His facility to compute increases, and he introduces new operations and techniques. He recognizes other principles and begins to abstract their formal content.

A system finally emerges which consists of first, the collection \( \mathbb{R} \) of real numbers; second, the operations of addition \((+\)) and multiplication \((\cdot)\); and third, a list of basic properties: for example, commutativity of addition

\[ \alpha + \beta = \beta + \alpha \]

and of multiplication

\[ \alpha \beta = \beta \alpha \]

are included. This system \([\mathbb{R}, +, \cdot]\) is called the real number system, and the end result of the shepherd's labors is symbolic arithmetic—the science of the real number system.

Thus, by application of his ability to reason about some elementary observations, the shepherd places at his disposal a useful, flexible, and powerful tool. He is now in a position to look up from his pile of pebbles and glimpse, ever so faintly, the vast expanse of a new ocean—algebra.

Unfortunately, the very mention of this word strikes fear in the minds of some of us. Thus, before proceeding, let me offer you some assurance. We have, in fact, reached the point where we can stand by Sir Isaac Newton when he said:

"I do not know what I may appear to the world; but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

Newton sensed that something of great magnitude lay just beyond him. What was it? In particular, if he had been free to explore the ocean of algebra, what would he have found? First, he would have marveled at the rich display and great variety of algebraic structures. Second, as a scientist, he would have plunged into the task of classifying these systems into their genera and species. He would, for example, find that the system of real numbers is only one of several algebraic structures that have the same basic features. Each system \([F, +, \cdot]\), called a field, of this one genus consists of a collection of objects, \(F\), two operations, \(+\) and \(\cdot\), and the same basic list of postulates that describe the real numbers. He would discover further, however, that this genus had several species. These species would be identified by such properties as the following:
Order. In the real number field \([\mathbb{R}, +, \cdot]\) the collection \(\mathbb{R}\) contains an infinite number of elements. Some fields, however, have only a finite number of elements. The order of the field \([F, +, \cdot]\) is defined to be the number of elements in \(F\). In particular, the order of a given field may be either some finite counting number or infinite.

Characteristic. Every field contains subsystems which are themselves fields. If the order of the smallest such subsystem of a given field is a finite number \(p\), then it can be shown that \(p\) must be one of the prime numbers \([2, 3, 5, 7, 11, \ldots]\); in this case the given field is said to be of characteristic prime \(p\). Otherwise, the field is said to be of characteristic zero. Thus, a given field is classified according as its characteristic is zero or some prime number \(p\).

Algebraic closure. Although some equations such as

\[1 - 3x + 2x^2 = 0\]

have real solutions for \(x\), some equations such as

\[1 + x + x^2 = 0\]

cannot be solved in the real number field. This is because the polynomial

\[1 - 3x + 2x^2 = 2(1/2 - x) (1 - x)\]

can be factored, whereas \(1 + x + x^2\) cannot be factored over the real numbers. In general, if every polynomial over a given field \([F, +, \cdot]\) is completely factorable in the sense that

\[a_0 + a_1x + \ldots + a_nx^n = \beta_0(\beta_1 - x) (\beta_2 - x) \ldots (\beta_n - x)\]

for some \(\beta_0, \beta_1, \ldots, \beta_n\) in \(F\), then the field is said to be algebraically closed. Otherwise it is not. Thus, a given field is or is not algebraically closed.

These and other properties identify a multitude of species in the genus field. But Newton was not even aware of these different species; in fact he did not even get his "feet wet" in this vast ocean. The time of exploration had not yet arrived; it was still over a century in the future. The story is as follows:

Mathematics entered into its modern phase when René Descartes published his analytic geometry in 1637. Here, for the first time, the tool of symbolic arithmetic was applied to geometry. The idea was to give a "name" to each point on a line. Each name was a real number, and the assignment was made in a precise, orderly way. (A crude approximation of this concept of number line is provided by
the number scale on a ruler.) The extension to the plane was a brilliant, yet simple device. Name the points of the plane by a pair \((a_1, a_2)\) of real numbers! The elements of this pair were obtained by "projecting" the point onto two (perpendicular) number lines, and the collection of all such pairs was denoted by \(R^2\). The next step was obvious. Name the points in three-space by the collection \(R^3\) of ordered triplets \((a_1, a_2, a_3)\), and in general \(n\)-space by the collection \(R^n\) of \(n\)-tuples \((a_1, a_2, \ldots, a_n)\).

Thus, the points of space correspond to some algebraic objects. What algebraic structure is applicable? In the first case, clearly the entire field \([R, +, \cdot]\) is at our disposal. But it took the genius of Carl Friedrich Gauss in 1831 to give the first coherent interpretation of the second case. By the proper definition of addition and multiplication, he recognized \([R^2, +, \cdot]\) as the heretofore mysterious complex number field.

The next question was a natural one. If \(n\) is greater than 2, then how can the operations \(+\) and \(\cdot\) be given to provide a field \([R, +, \cdot]\)? The answer was far from obvious. But one mathematician—an Irishman named William Rowan Hamilton—became obsessed with the problem. For nearly fifteen years it haunted him. Finally, on October 16, 1843, as he was out taking a walk, a partial solution came to him. Then and there he scribbled the answer onto the nearest object at hand—a stone in the bridge upon which he stood at the time. Later that same day, he requested permission to present his idea before the Royal Irish Academy, which he did a few weeks later (on November 13, 1843; see also [2] and [7]).

The idea was a bold one. It was not a field that he sought, but a "skew" field—an algebraic structure that possessed all of the properties of a field except one—commutativity of multiplication!

Reject the principle of commutativity? But could this be done? And why not? Suppose the shepherd had matched his sheep with cannon balls, and his son had matched his with peaches. Would we not be aware of some difference in who first placed their respective objects into the bag? Does anyone who has tried to put on his socks after his shoes were on wish to argue that this is the same as the normal procedure? The same idea is also suggested by the following verse, which is found on the Game Board of Algebra (I.B.M., Pacific Science Center, Seattle):

4 pills 365 times a year can cure you
365 pills 4 times a year can kill you.

Finally, the usefulness of this concept of noncommutativity may be
sensed in the words of Dr. P. A. M. Dirac, who wrote in one of his early papers on quantum theory \[5]:

"For the purpose of atomic physics it has been found convenient to introduce the idea of quantities that do not in general satisfy the commutative law of multiplication, but satisfy all the other laws of ordinary algebra."

Yes, commutativity may be just the thing we do not want. In mathematics, Hamilton was the first to recognize this fact, and once again, a most difficult, yet simple step had been taken. A step so significant, that it may be ranked with the construction of the first non-Euclidean geometries. It was not that Hamilton's particular system, which he called quaternions, was all-important. It was not. Hamilton's discovery was significant because it showed that the commutative law of multiplication was not necessary for a self-consistent algebraic system. Algebra was no longer just symbolic arithmetic: it now recognized a variety of algebraic structures. Thus, the step transcended the traditions of centuries and gave algebra its freedom. Although Newton had not been free to do so, the mathematicians of the mid-nineteenth century were now free to explore the vast ocean of algebra.

One of the first algebraic structures to be investigated in this new era was introduced by Arthur Cayley in 1858. It included, in particular, the complex numbers of Gauss and the quaternions of Hamilton. The objects of its collection \( M \) were square "arrays" of elements from a field. These arrays were called matrices. Operations of addition and multiplication of matrices were defined and most of the principles of ordinary algebra were found to be satisfied. However, there was one exception; in general, for matrices \( a \) and \( b \),

\[
ab \neq ba
\]

That is, the algebra \([M, +, \cdot]\) of matrices was a noncommutative system.

Today, over a century later, the algebra of matrices is still one of the prized tools in the mathematician's briefcase, and the non-commutativity of the system is still one of its fascinating features.

We now conclude this lecture with an examination of one particular pebble of this discipline. Early in the study of matrices it was observed that some pairs of matrices do commute. In fact, some commute with every matrix: the collection \( Z \) of such matrices is called the center. Furthermore, it was noted that a given matrix \( a \) commutes with every matrix of the form
where \( a_0, a_2, \ldots, a_n \) belong to the center. Such a matrix is said to be \textit{generated} by \( a \) over the center. In 1875, W. K. Clifford [3] attempted to prove the converse of this observation; namely, every matrix that commutes with a given matrix is generated by that matrix. In 1878, G. Frobenius [6] proved this result for a very special case, but in 1884, J. J. Sylvester [15] showed that in general the conjecture was false. In other words, if \( K(a) \), which is called the \textit{centralizer} of \( a \), is the collection of all matrices that commute with \( a \), and \( Z[a] \) is the collection of matrices that are generated by \( a \) over the center, then every matrix in \( Z[a] \) is in \( K(a) \), but not vice-versa: symbolically \( Z[a] \subseteq K(a) \), but in general, \( K(a) \neq Z[a] \).

Thus, the question remained: what "nice" necessary and sufficient condition guarantees that a given matrix is generated by another? This question was answered in 1910 by L. Autonne [11]. (See also [8].) He reasoned as follows: if \( b \) is generated by \( a \), then \( b \) not only commutes with \( a \) but also with every matrix that commutes with \( a \). He then demonstrated the converse, which is now called the "double-centralizer" theorem. Specifically, any matrix which commutes with every matrix which commutes with \( a \) must be generated by \( a \). In other words, if \( K[K(a)] \) denotes the collection of all matrices that commute with each matrix in the centralizer \( K(a) \), then

\[
K[K(a)] = Z[a].
\]

Consequently, the class of all matrices that are generated by a given matrix is here completely characterized by the apparently superficial notions of commutativity.\footnote{Proofs of this result may be found in references [10] and [11]. One important application was made by P.A.M. Dirac; specifically, this concept provided the starting-point of his function theory for quantum algebra [5].}

It is very often the case in the study of matrices that commutativity is a sufficient but not necessary condition for some conclusion (see [16]). This leads one to seek a "weaker" condition, which gives rise to the same result, thus producing a "stronger" theorem. One such device is suggested by the following observation. The matrix \( b \) commutes with the matrix \( a \) if and only if the difference \( b a - a b \) is zero. This difference is called the (additive) commutator of \( b \) and \( a \), and is denoted by

\[
b \delta_a = b a - a b.
\]
In a heuristic sense, the commutator measures how much $b$ and $a$ fail to commute.

Now, if $b$ does not commute with $a$, it may happen that the commutator of the commutator is zero; that is $(b\delta_a)\delta_a = 0$ even though $b\delta_a \neq 0$. In other words, although $b$ does not commute with $a$ in the ordinary sense, it does “commute” in a higher order sense. The extension to still higher order commutators is immediate. The collection $K_m(a)$ of all matrices $b$ such that

$$(\ldots((b\delta_a)\delta_a)\ldots)\delta_a = 0,$$

where $\delta_a$ is repeated $m$ times, is called the $m$-centralizer of $a$. Finally, $K_m[K_m(a)]$ denotes the collection of matrices that are in the $m$-centralizer of every matrix in the $m$-centralizer of $a$.

In 1960, M. Marcus and N. A. Khan [12], (both of the University of California at Santa Barbara) published the following modification of the double-centralizer theorem. In the algebra of matrices over a field which is (1) of characteristic zero, and (2) algebraically closed,

$$K_2[K_2(a)] \subset Z[a].$$

In 1961, M. F. Smiley ([14] of the University of California at Riverside) generalized this result. Under essentially the same two restrictions on the field, but for any positive integer $m$, he showed that

$$K_m[K_m(a)] \subset Z[a].$$

In other words, if the matrix $b$ is in the $m$-centralizer of every matrix in the $m$-centralizer of $a$, then $b$ is generated by $a$ over the center.

This result leaves two glaring questions unanswered. First, are the restrictions (1) and (2) on the field really necessary? That is, does the result fail for other species of fields or is it valid for the entire genus? Second, can it be shown that the inclusion is actually an equality? Or (as was shown in [12] for the case $m = 2$) does the left-hand member describe a particular subcollection of matrices generated by $a$?

As in the case of Hamilton, these questions began to haunt me. They also haunted others, and in 1963, Dr. Olga Taussky Todd [17] of California Institute of Technology formally posed (in part) these questions to the American Mathematical Society as a research problem. Fortunately for me (my wife and children) the haunting ended the following year. In 1964, I was able to discover the key to the solution, and in 1965 the results were published (see [13]).
In final form this is the theorem. Let $a$ be a matrix over a field $F$ and let $m$ be a positive integer.

If $F$ is of characteristic prime $p$, and $f$ is the integer defined by the inequalities of $p^{f-1} < m \leq p^f$, then

$$K_m[K_m(a)] = Z[ap^f] \subset Z[a].$$

If $F$ is of characteristic zero, and $s$ is the semisimple part of $a$, then

$$K_1[K_1(a)] = Z[a].$$

and

$$K_m[K_m(a)] = Z[s] \subset Z[a].$$

for $m > 1$.

This theorem completely answers the above questions. But, as is the case with all research, it asks many more of its own. Some have recently been answered: Professor Willes Werner, of our own staff, and I have just extended this theorem to matrices over the skew field of quaternions (see also [4].) Some questions have yet to be answered: is the theorem valid in some sense over any skew field?

With this question we come to the end (for now) of one thread of mathematical research. Although this thread has brought us to commutators in particular, as was promised in the title of this lecture, hopefully it has revealed along the way a few general propositions. First, mathematics is based on the simple faith that man can pebble. Second, its function is to identify and abstract the kernel of this experience. Third, its resources are extensive and are abundant in overwhelming variety, yet it refuses to give to man its wealth without extracting a price. Fourth, although in part it is a deductive science, in the large it is a creative science; not only does the mathematician draw necessary conclusions, but he also decides what to prove and discovers how to establish the proof. Fifth, it evolves with the changing times; in the words of R. H. Bing, "mathematics is an alive and growing subject." In summary, we may say as Warren Weaver did of science in general, mathematics is "an adventure of the human spirit."

I leave you now to ponder this lofty conclusion, while I go off to play with another pile of pebbles.

REFERENCES


The semisimple part of $a$ is a special matrix generated by $a$ (see, for example, [9]).
15. J. J. Sylvester. On the three laws of motion—the world of universal algebra, Johns Hopkins Circ., 3 (1884) 33-34, 57.
Dancing
as an Aspect of Early Mormon
and Utah Culture

Leona Holbrook

ANALYSIS OF CULTURE

When we speak of culture we think of a commendable quality. Upon careful analysis we will realize that there are varieties and degrees of culture. It is commendable for a people to be in possession of a high degree of culture, and probably not to their credit if they are short of this attainment.

Not long ago I heard a man say, "I'm gonna take some courses and get some culture." Culture is not for one to get. Culture is growth, progression—a matter of becoming. There will be a too brief development of the theme here, that Mormons had a form of culture in their dancing. Considering their total culture, a brief report on their dancing is but an "aspect."

It might be informative to see what modern writers say about "culture." Powys states,

Culture is what is left over after you have forgotten all you have definitely set out to learn and in this sally you get at least a useful warning against associating culture too closely with the academic paraphernalia of education.1

Powys brings out the point that a true culture is indigenous. It is dependent upon the resources of the self. It is not education, but it is the product or the issue of education, thinking, and living.


"Just as the best education is merged and swallowed up in culture, so the best culture is merged and swallowed up in something else."

**HISTORIC BACKGROUND**

Mormon dancing was an outward manifestation of an inner joy, an inner grace, expressing itself in group response and group participation. As a criterion for culture it met Powys' requirements in that it was "deeper rooted and more widely human than any trained aesthetic taste, or any industriously acquired scholarship." The Mormons in the time of the founding of the Church, and later at the beginning of community life in Utah employed dancing as one of their sociological-cultural patterns. Dancing is a cultural aspect of Mormon life today.

Dancing has been, through the ages, a manifestation of man's thinking in social, religious, and sometimes aggressive behavior. Through the many centuries of man's history dance has most often been considered reputable, although there has been a period of time when dance has brought disfavor upon those who engaged in it. Dance was originally part of religious ceremony. It was a creditable activity, according to the Bible, and was later employed in Medieval churches as part of church ceremony.

Philosophers and historians generally look with favor upon dancing as a cultural outgrowth of living. Folk dance "belongs to the people. It is simply expression. It formulates people's lives. It is their life. . . ."

By the title of his best known work, *The Dance of Life*, Havelock Ellis appears to be an exponent of the dance, but actually he is a philosopher, and as such, he states:

Dancing and building are the two primary and essential arts. The art of dancing stands at the source of all the arts that express themselves first in the human person. . . There is no primary art outside these two arts, for their origin is far earlier than man himself; and dancing came first. If we are indifferent to the art of dancing, we have failed to understand, not merely the supreme manifestation of physical life, but also the supreme symbol of spiritual life.

In 1830 when the Mormon church was organized and during the next few decades, the Christian church had an attitude of hos-

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1Ibid., p. 3.
2Ibid.
tility toward recreation. In earlier Colonial America the state, too, shared the attitude. Work had occupied a position of paramount importance because people had to accomplish a great amount of work to survive. Especially was this true of newly settled areas where industriousness was needed. America had been founded by people who revolted against the leisure class of Europe. These first comers to our shores had resented the idleness and the pleasures of their oppressors. They rationalized and called those things sinful which were quite beyond their reach. Some of these attitudes have been expressed:

Play must be forbidden in any and all its forms. The children shall be instructed in this matter in such a way as to show them, through the presentation of religious principles, the wastefulness and folly of all play.  

In 1792 the Methodist Episcopal church in America stated: "We prohibit play in the strongest terms."  

Reverend C. T. Bedell, Rector of St. Andrew's Church in Philadelphia, asserted that "there is also a gravity and dignity of deportment which can make no fellowship with the lightness and frivolity of a theatre or ballroom. A professing Christian, then, engaged in such pursuits, loses at once the dignity of his assumed character."  

While some churches strictly forbade any form of dancing, in other churches the concession was made to allow dancing in the form of singing games or play party games. A report on southern Illinois, which was peopled by persons from Tennessee, Kentucky, and Ohio, indicates that they could play these games only when they were accompanied by their own singing. An innovation of the day was the "promenade" in which couples strolled the dance hall or "promenaded" to the music for the duration of the party. 

The play-party was the only acceptable form of dance, and Owens tells why "dancing" was taboo.

The play-party owes much of the impetus of its development to the religious fervor of early America. In practically all communities predominantly Protestant, dancing was, and is, taboo.

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6Professor Franke; Quoted.  
9David S. McIntosh, Southern Illinois Singing Games and Songs (Carbondale, Ill.: Illinois Normal University, 1946), pp. 2-3.
The fiddle was the "instrument of the devil," and all who danced to its strains were unfit for membership in the community church.\textsuperscript{10}

He explains that church members who danced the dances of the world had to seek the pardon of their membership or be expelled.

For the history of these play-party games, religion was almost as important as nationality. These people were Quakers, Disciples, Methodists, Baptists, or Presbyterians as to creed, but they were one in opposing the dance as a wicked sport. Most of these scrupulous consciences did not, however, detect anything wrong in the traditional "playing games" of the young people. If these were follies they were time honored. Parents and grandparents had enjoyed them, and with this for recommendation they were usually free from the suspicion of evil.\textsuperscript{11}

It has been brought out that the fiddle was the instrument of the devil, therefore, the play party games were accompanied by the participants' own singing and not by musical instruments. Swings usually were not permitted in the dances, but where they did exist, they must be performed by holding hands, rather than by doing a "waist swing." Even with "waist swings" some participants were suspect for their attitudes as explained,

The attitude which the players have toward the games is criticized by the ministers, who, with few exceptions, preach that both the play-party and the dance are on the same plane with card-playing and must not be countenanced by church members.\textsuperscript{12}

Another writer explains diversity of opinion on the matter:

. . . It is clear that the church was divided on the question of the play-party. On the one hand it might tolerate and even encourage the play-party as the lesser of two evils; on the other hand, fanaticism might proceed to the point where the play-party was outlawed along with the dance.\textsuperscript{13}

Church-sponsored recreation did not exist in the United States in 1830. In the 1870s and 1880s the general concept of the church serving as a social institution was just beginning to come into existence. It now is considered the responsibility of churches to provide social activity and recreation for membership. More than half of


\textsuperscript{12}Ibid.

\textsuperscript{13}B. A. Botkin, \textit{The American Play Party Song} (Lincoln, Nebraska: University of Nebraska, 1937), p. 21.

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the churches in America now assume this as a function. The Mormon church is one of these.

The Mormon Background

The Mormon philosophy of play as manifested in dance was radically different from that of other Christian churches in the half century from 1830-1880. The Mormons not only were allowing play, but they were advocating it and sponsoring it during this period. The membership of the early Mormon church was drawn from Puritanical New England, and from other areas where churches were opposed to play, and particularly hostile to dancing, though sometimes admitting play-party games.

The factors which allowed for such a strong variation in social pattern are probably as follows:

1. Joseph Smith and Brigham Young, the first and second presidents of the Mormon Church, stressed that temporal and physical welfare were the bases for spiritual welfare.

2. The Mormons were isolated socially and sometimes geographically. This isolation allowed them independence in developing the social plan best suited to their needs.

3. Release for mass suffering was required. A mass release provided the most wholesome adjustment.

4. Varying cultures, areas, and nationalities came together. Play, primarily manifesting itself in dance, was the best socializing force, and the one into which there could be an easy social entry.

Joseph Smith, the Prophet-founder and first President of the Church, was over six feet tall, weighed 212 pounds and was activity minded by nature. He enjoyed pistol shooting, baseball, walking, hiking, wrestling and horseback riding. For Saturday, September 22, 1838, he recorded: "I went out early in the morning, returned to breakfast at half past seven, and took an airing on horseback at nine in the morning."14 On a Friday in October, 1842, he wrote "In the afternoon I rode out into the city and took a little exercise."15 According to his own writings, he ice skated and engaged in "pulling sticks," a popular sport of those days. One of his biographers has written that Joseph Smith could high jump a bar equal to his own height.

Joseph Smith was a competent, skillful performer in active sports, he encouraged others in those events, and promoted many other recreational activities. He favored music, drama, boating (He owned half interest in a steamboat the Maid of Iowa), dancing, and wood cutting bees.

In his own words, "A large party supped at my house, and spent the evening in music, dancing, etc., in a most cheerful and friendly manner." A New Year's party was held in Smith's home that same year in which there were music and dancing until morning.

Emphasis was placed upon good company and children and adults were warned against vain, foolish amusements. Emphasis was placed upon training the young. "How important that they be taught to be sober, and avoid every vain and foolish amusement. . . . What is learnt in childhood is retained in age so then, let us teach our children the great virtues that make men good."

A youth organization under the leadership of Joseph Smith met at the home of Heber C. Kimball late in January, 1845. Part of the conversation concerned itself with the "follies of youth" and "their too frequent attendance at balls, parties, etc." The next meeting convened at the home of President Smith. Heber C. Kimball was the speaker, and his speech was reported by Monroe, secretary to the group.

He warned them against frequenting balls and such places, which, he said, would generally lead to many evil practices, and would draw away the mind from more innocent amusements . . . He said "he had not now, nor never had, any objections to having young people meet together in social parties, or indulging in any rational amusement; but, he strongly opposed carrying it to extremes, as it generally was.

This organization was formed to serve many purposes in addition to recreation, and was a forerunner of subsequent youth organizations.

A letter addressed to the editor of *Times and Seasons*, the official church publication, queried, "I should be very much gratified by your informing me, and not only me, but the public, through the medium of your valuable paper . . . what your views are in regard to balls and dancing, as it has lately existed in our city."
John Taylor, editor, explained the whole Mormon thought of that day in his answer:

There certainly can be no harm in dancing, in and of itself, as an abstract principle, but like all other athletic exercises, it has a tendency to invigorate the system and to promote health . . . Therefore, looking at dancing merely as an athletic exercise, or as something having a tendency to add to the grace and dignity of man, by enabling him to have a more easy and graceful attitude, certainly no one could object to it . . . As an abstract principle . . . we have no objections to it; but when it leads people into bad company and causes them to keep untimely hours, it has a tendency to enervate and weaken the system, and lead to profligate and intemperate habits. And so far as it does this, so far is it injurious to society, and corrupting the morals of youth.21

The early Mormons believed that public dancing should not be approved. Members should not go to public dance halls and expose themselves to base elements. Joseph Smith records a case while the Saints were at Kirtland, Ohio, wherein twenty-two members, male and female, were disfellowshipped for "uniting with the world in a dance."22 So the Mormons were in favor of dancing, in the right environment—their own.

An excerpt from a Daughters of Utah Pioneers pamphlet tells of one incident worth recording:

The labors of the day in the Nauvoo Temple having been brought to a close at 8:30, it was thought proper to have a little season of recreation. Accordingly, Brother Hans C. Hanson was invited to produce his violin, which he did, and played several lively airs, accompanied by Elisha Averett on his flute, among others, some very good lively dancing tunes. This was too much for the gravity of Brother Joseph Young, who indulged in dancing a hornpipe, and was soon joined by several others, and before the dance was over, several French fours were indulged in. The first was opened by President Brigham Young and Sister Whitney and Elder Heber C. Kimball and partner. The spirit of dancing increased until the whole floor was covered with dancers.23

A number of Nauvoo musicians formed a Quadrille band for use at dancing parties, and were given the full approval of President Smith.

Under Joseph Smith's leadership dance and other forms of recreation were sponsored because his followers were socially isolated,

21Ibid.
22Smith, History of the Church, 2:519-20.
23Kate B. Carter, Bands and Orchestras of Early Days, Pamphlet of the Daughters of the Utah Pioneers, December 1941.
because they were organized with intimate social relationships, because they were good followers, and because the doctrine had been propounded "Man is that he might have joy." Because they differed from other people in religious beliefs, it was easy for them to differ in their thinking about dancing, which had become a religious or church affair. They were beyond the realm of social control of other groups, and free to develop their own social pattern. Perhaps such unusual action is evidence of a culture for as Powys states, "The more culture a man has, the more austerely does he abide by his own taste." In this early social isolation, and in this independence of thought and action, dance, a cultural aspect of Mormon life, was given its foundation.

The truth is that as education is only real education when it is a key to something beyond itself, so culture is only real culture when it has diffused itself into the very root and fibre of our endurance of life. Culture becomes in this way something more than culture. It becomes wisdom; a wisdom that can accept defeat, a wisdom that can turn defeat into victory.

On June 27, 1844, Joseph Smith was assassinated and Brigham Young became the acting leader of the Church. He followed the precedent of Joseph Smith, by sponsoring recreational activities. He was confronted with problems of mass migration and colonization under most adverse conditions. His followers were a harried people, as well prepared as could be, under the circumstances, and assembled from diverse areas. In the October, 1844 issue of Times and Seasons, he warned the saints

not to mingle in the vain amusements and sins of the world . . . and so far at least as the members of the church are concerned, we would advise that balls, dances and other vain and useless amusements be neither countenanced nor patronized; they have been borne with, in some instances heretofore for the sake of peace and good will. But it is not now a time for dancing or frolics but a time of mourning, and of humiliation and prayer . . . If the people were all righteous, it would do to dance, and to have music, feasting and merriment . . . All amusement in which saints and sinners are mingled tends to corruption, and has a baneful influence in religious society.

He advocated not mingling with the world in recreation, and thus he might seem to have been in opposition to dance and to recreation.

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24Powys, Meaning of Culture, p. 9.
25Ibid., p. 4.
27Times and Seasons 5 (1 October 1844):668-70.
Brigham Young not only enjoyed recreational pursuits himself, but he often included discussions of recreation in his sermons to his people. Dance came in for attention, too. Recreation was not a tenet of religious teaching, but was a part of the life of a religious man. He felt that dancing has its place. It is to be seen that he had a feeling of propriety. He sometimes counselled for dance and other amusements; sometimes he opposed them. His attitude may seem inconsistent when we take a single instance, but in his over all philosophy great consistency was shown. Propriety and need were the prime influencing factors in Brigham Young’s philosophy of dance in recreation.

After the Mormons had crossed the Mississippi from Nauvoo, they camped at Sugar Creek.

The night of March 1, (1846) after they had pitched camp in the usual manner of emigrants, President Young has the 'brethren and sisters' out in a dance to the tune of Captain Pitts brass band.

A dance! How could they? Indeed, the Iowans who gathered round could scarcely believe their eyes.

The men cleared away the snow in a sheltered place. Warmed and lighted by the blazing logs of their fire, fifty couples, old and young, stepped out in the dance.28

While the Mormons were camped at Winter Quarters in 1846, winter came on and many of the Saints died. Others were cold, hungry, grieving or ill. Brigham Young realized the need for developing their courage for the task that lay ahead. He called for several loads of wood to be piled near the bowery, and on a certain evening the people were called together. In the light of the cheering fire he said to his people, "I want you to sing and dance and forget your troubles. . . . We must think of the future that lies ahead and the work which is ours. We are to build the Kingdom of God in a new Zion. Let’s have some music and all of you dance." According to Milton R. Hunter29 they danced waltzes, polkas, and quadrilles to Pitts' brass band. During the trek quadrilles and minuets were danced on the hard ground around the camp-fires.

In 1846 Colonel Thomas L. Kane witnessed a party held in honor of the Mormon Battalion just prior to its leaving. He described the event in these words before the Historical Society of Pennsylvania, March 26, 1850:

28Marguerite Cameron, This is the Place (Caldwell, Idaho: Caxton Printers, 1939), p. 98.
The afternoon before was appropriated to a farewell ball; and a more merry dancing rout I have never seen . . . It was the custom, whenever the larger camps rested for a few days together to make great arbors, or boweries, as they called them, of poles and brush . . . In one of these where the ground had been trodden firm and hard . . . was gathered now the mirth and beauty of the Mormon Israel . . . With the rest, attended the Elders of the Church within call, including nearly all the chiefs of the High Council, with their wives and children. They, the gravest and most troubleworn, seemed the most anxious of any to be the first to throw off the burden of heavy thoughts. Their leading off the dancing in a great double cotillion, was the signal bade the festivity commence. To the canto of debonair violins, the cheer of horns, the jingle of sleigh-bells, and the jovial snoring of the tambourine, they did dance! . . . French fours, Copenhagen jigs, Virginia reels, and the like; forgotten figures executed with the spirit of people too happy to be slow, or bashful, or constrained. Light hearts, lithe figures, and light feet had it their own way from an early hour till after the sun dipped behind the sharp skyline of the Omaha hills . . . Well as I knew the peculiar fondness of the Mormons for music, their orchestra in service on the occasion astonished me by its numbers and fine drill . . . When the refugees from Nauvoo were hastening to part with their table ware, jewelry, and almost every other fragment of metal wealth which they possessed that was not iron, they had never thought of giving up the instruments of this favorite band.3\textsuperscript{a}

At Winter Quarters on January 14, 1847, Brigham Young is credited with having had a revelation, which reads in part: "If thou art merry, praise the Lord with singing, with music, with dancing, and with a prayer of praise and thanksgiving."3\textsuperscript{b} This gave the Mormons the final sanction they needed for dancing, the sustaining and morale building activity which was to become a part of their cultural pattern.

Dance was a ready relief from the tribulations and the oppressions of mind. It was a relaxation from toil, a tool of social intercourse, and it maintained group solidarity. Clarissa Young Spencer, a daughter of Brigham Young has written:

One of father's most outstanding qualities as a leader was the manner in which he looked after the temporal and social welfare of his people along with guiding them in their spiritual needs. On the great trek across the plains when everyone but the most feeble walked the greater part of the way, the Saints would be

3\textsuperscript{a}Thomas L. Kane, *The Mormons* (Philadelphia: King and Band, 1840), pp. 29-32.
3\textsuperscript{b}*Doctrine and Covenants of the Church of Jesus Christ of Latter-day Saints* (Salt Lake City: George Q. Cannon & Sons, 1898), section 136:28, p. 491.
gathered around the campfire for evening entertainment, if the weather was at all favorable. Then songs would be sung, music played by the fiddlers, and the men and women would forget the weariness of walking fifteen miles or so over a trackless desert while they joined in dancing the quadrille. It was his way of keeping up "morale" before such a word was ever coined.\(^2\)

**Jay B. Nash states:**

In times of crises, individuals draw closer and closer together effecting group solidarity . . . Individual differences are overlooked, the good of all becomes paramount . . . There is a unity of purpose—there is morale.\(^3\)

The first group of Mormon pioneers left Winter Quarters on April 5, 1847. In this company of one hundred and forty eight there were only three women, and these were married. Many forms of amusement were participated in, including some rough-and-tumble dancing in which the men whirled one another about. On the morning of May 29th Brigham Young called his company together and said, "I have let the brethren dance and fiddle . . . night after night to see what they will do." He spoke sharply to them of excesses in all things,

You do read of men praising the Lord in the dance, but who ever heard of praising the Lord in a game of cards? . . . If any man has sense enough to play a game of cards, or dance a little without wanting to keep it up all the time . . . Last winter when we had our seasons of recreation in the council house, I went forth in the dance frequently, but did my mind run on it? No. To be sure, when I was dancing, my mind was on the dance, but the moment I stopped in the middle or end of a tune, my mind was engaged in prayer . . .\(^4\)

After reaching the valley of the Great Salt Lake some of the original company returned to meet other Saints. A group led by John Taylor met this band at the Sweetwater River, about four hundred miles east of the Great Salt Lake. A supper was held in celebration and preparations were made for dancing; and soon was added to the sweet confusion of laughter and cheerful conversation the merry strains of the violin, and the strong clear voice of the prompter

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\(^{4}\)Brigham Young as quoted by William Clayton, journal published in *Heart Throbs of the West* (Salt Lake City: Daughters of the Utah Pioneers, 1939-51), 6:254-55.
directing the dancers through the mazes of quadrilles, Scotch-reels, French-fours and other figures of nameless dances. At the close of the gala time Elder Taylor commented, "We felt mutually edified and blessed."

Dancing was the most apparent play form of the Mormons on their westward trek. The play of a people is the most revealing single activity in which they engage. Various theories exist for play as a sociological phenomenon. Herbert Spencer claims that play was merely the expression of surplus energy. This theory cannot support itself for dancing emigrants who were foot weary from traveling the rough and trying miles to their western goal. Rousseau, Karl Groos, McDougall, and Joseph Lee explain that an innate desire is the motivating factor in play. This theory can be supported when one understands that the rigors of the travelling day brought satisfactions in accomplishment, but brought little chance for social intercourse. Mitchell and Mason assert that play is a natural means of self expression. Writers in the field of sociology emphasize the group factors in participation in play activities.

The Mormon engagement in dancing can be explained by the inclusion of elements from those theories that are accepted above. Man has a natural tendency for activity and self-expression. It is a diversion from routine work, a method of relaxation and rest, even though it continues to be motor activity. It brings added joy to life and recognizes the factor that group activity is needed.

Dancing, during the migrations, kept the people warm in group assembly during cold evenings on the great plains. Dancing, combined with prayer and short inspirational talks kept the emigrants in better accord than long assemblies with no seating provisions. A naturally clear area in a wagon enclosure was selected, a fire lighted and warmed the fringes, and the orchestra was simple in organization.

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36Ibid.

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Some emigrant companies were fortunate enough to have a hand organ. Usually, without its being removed from the wagon, it formed the basis for the accompaniment. Other instruments used were the fiddle, accordion and flute.

In the collection of musical instruments at the Utah State Capitol is a concertina which belonged to John Webster and is said to have been played for social events of the pioneers in their westward trek across the plains. A lyre and a left handed violin belonging to William Pitt were music makers in 1847 in the long trek. William Pitt also played the trumpet in the Nauvoo Brass Band which remained quite intact and played later in the Salt Lake Theater. William Fowler’s violin and piccolo are in the collection. As a company captain he came with English emigrants, presumably in the handcart companies. Handcarts were the most usually employed transportation with those peoples. His instruments were said to have provided music on the journey.

Reports of pioneer activity give confirmation to the place of music, song, and dance for pioneers on the march. Mrs. Ebenezer B. Beesley says her husband played his violin with the British handcart companies. The collection includes two flutes of his that are said to have been played in early day dances. “William Clayton in his journal . . . speaks of the part music played in the life of the tired pioneer, when at the end of a day’s journey the musician would strike up a tune and the group would join in dance and song.”

It is not to be thought that dances were common. They were not held every night.

Morning and evening prayers and songs of praise were never omitted in the camps, and occasionally a dance was enjoyed, the companies generally being favored with musical talent.

The Mormons in Utah

In the Great Salt Lake Valley the Mormons had recreations of a family and community nature. During the first few years they danced on dirt floors in log cabins and these dances and parties "were a regular and important part of their lives." Space was cleared by moving the furniture out of doors and "through many

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42Kate B. Carter, Heart Throbs of the West, (Salt Lake City: Daughters of the Utah Pioneers, 1939-51), 6:379.
43Kate B. Carter, Bands and Orchestras, p. 117.
a winter night could be heard the strains of the violins accompanying the dancers."

Captain Howard Stansbury, who explored the basin of the old Lake Bonneville, was in the valley from August 27, 1849, until August 27, 1850. He wrote, "... balls, parties and merry-making... formed a prominent and agreeable feature of the society." Stansbury said that Brigham Young mingled freely at these events, tempering them with his influence.

In 1850 an amusement resort was built up in the hot springs area at the north of the city. An elevated wooden dance floor provided quite an atmosphere, and some of these parties were called "balls."

Mrs. Spencer tells of a party at Brigham’s Mill, on Christmas night. A dinner was held at midnight and dancing continued until five in the morning.

Dancing in Utah is considered by church historians to have been important, for, "this activity was probably the most common amusement of the founding of our State, being enjoyed in every city, town and hamlet in Utah."

In some of the settlements dancing schools were established. In Brigham City as early as 1853 a dancing school was opened. It was under the direction of John Bynon. "Money Musk," "Twin Sisters," and all of the other old dances were taught. "Blindman Jones" with his fiddle furnished the music for these occasions. Later he was accompanied by the accordion.

Dancing groups were formed and schools of dance were organized.

"The Mormons love dancing," says the apostate John Hyde. "Almost every third man is a fiddler, and every one must learn to dance. In the winter of 1854-1855, there were dancing schools in almost every one of the nineteen school houses, and necessarily so much more attention to dancing involved so much less attention to study. Just so much less education and just so much more injury."

In Andrew Jenson’s Encyclopedic History it is reported that the first recorded celebration of Independence Day by the Utah Pioneers

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47Ibid.
49Spencer, One Who Was Valiant, pp. 162-63.
50Hunter, Utah, p. 208.
52Quoted in Andrew Love Neff, History of Utah 1847 to 1869 (Salt Lake City: Deseret News Press, 1940), p. 599.
was held at Black Rock Beach. The procession of 150 carriages took four hours to make the trip. Dancing, bathing and other activities were engaged in. A night encampment was made, and the party returned the next day. Successively, Garfield beach in 1875, Lake Shore resort in 1878, Lake Park in 1886, and Saltair in 1893 were built as bathing resorts with dance floors or pavilions. Lindsay Gardens in 1865 was built with a bowery for dancing, which was replaced in 1875 by a large dance hall. Calder's park, later Wanda- mere, and now Nibley Park had a large dance hall in 1865. Fuller's Hill, a park lying between Fourth and Fifth South Streets and bounded by Tenth and Eleventh East Streets had a dance hall in 1862 when Magnus Olsen's band played there.

In the spring of 1870 William Wagstaff made a park in the present Gilmer Park area. A dancing bowery was added. It is described by William F. Handley "as built with a wooden floor where three quadrille sets could participate at one time and leave room for the 'fiddlers'."\(^{53}\) Wagner's Brewery Resort was set up in the mouth of Emigration Canyon in 1865. There was scheduled dancing on all holidays. Many other resorts, parks and outing areas were developed later, to accommodate dancing and other recreational activities.

At the Legislative Festival held in the Territorial House, March 4, 1852, Brigham Young expressed his idea about recreation and dance. Of dance he said:

*I want it distinctly understood that fiddling and dancing are no part of our worship. The question may be asked, What are they for, then? I answer, that my body may keep pace with my mind. My mind labors like a man logging, all the time; and this is the reason why I am fond of these pastimes—they give me a privilege to throw everything off, and shake myself, that my body may exercise, and my mind rest. What for? To get strength, and be renewed and quickened, and enlivened, and animated, so that my mind may not wear out."\(^{54}\)

He further explained his own participation in the dance as a recreational activity. Brigham Young looked upon play as an essential activity for a change of routine, and to provide relaxation. He thought of it as something for the temporal, to sustain the spiritual. He always emphasized moderation.

The capitol city of Utah was established at Fillmore. The 4th of

\(^{53}\)Kate B. Carter, *Heart Throbs of the West*, 5:96.

July, 1852, was celebrated "with spirit at Fillmore City, the capitol of Utah, by orations, toasts, the firing of guns, etc., closing with a grand ball in the evening."75

The "Social Hall" in Salt Lake City was dedicated Saturday, January 1, 1853. The opening exercises culminated with a grand ball in the evening. Invitations were issued by Brigham Young.

An artist with Colonel Fremont’s expedition, S. N. Cawalks, was invited to a ball in April, 1854. He wrote of it:

The utmost order and strictest decorum prevailed. Polkas and waltzing were not danced; country dances, cotilllions, quadrilles, etc., were permitted.

At the invitation of Governor Young, I opened the ball with one of his wives. The Governor, with a beautiful partner, stood vis-a-vis. An old fashioned cotillion was danced with much grace by the ladies, and the Governor acquitted himself very well on the "light fantastic toe."56

Benjamin Ferris, secretary of Utah Territory in the winter of 1852-53, received an invitation to the Social Hall for a party in January of 1853. As did all others, he contributed his share of the expenses of the party. This is his description:

The party was large, and, after a goodly number had assembled, the business of the evening was opened by a short prayer; after which dancing commenced, and was kept up during the whole evening. A band of music, which performed exceedingly well, was stationed on the raised platform, and there was room enough on the main floor for half a dozen sets of cotilllions.57

Mrs. Ferris, the secretary’s wife, wrote, "Dancing continued fast and furious till a late hour. Each man danced with two women at a time."58 A French traveller claimed that the Mormons had invented a new type of dance, a double quadrille, in which each gentlemen had two ladies.59

Levi Edgar Young says of the early day dances:

The dance consisted of a common movement, such as swaying or stamping, done by a group of men and women to the accompaniment of rhythmic cries and hand-clappings. Chief among

56S. N. Cawalks, Incidents of Travel and Adventure in the Far West (New York: Derby and Jackson, 1857), pp. 156-57.
these were the quadrilles, polkas, Scotch reels, and minuets . . . A waltz was now and then indulged in.\(^6\)

John Hyde, Jr., said that the church was opposed to waltzes, mazurkas, and schottisches but favored cotillions, contra-dances and reels.\(^6\) Burton said that polkas were disapproved of. He described a thirteen hour party in the Social Hall with Brigham Young leading off in the first cotillion:

Dancing seems to be considered an edifying exercise. The Prophet dances, the Apostles dance, the Bishops dance. . . . [The dance] is not in the languid, done-up style that polite Europe affects; as in the days of our grandparents, “positions” are maintained, steps are elaborately executed, and a somewhat severe muscular exercise is the result.\(^6\)

Professor Dominico Ballo, trained in Milan, and ex-bandmaster of West Point, was the leader of the Social Hall orchestra. His services as director were voluntary. He was a clarinet player of exceptional ability. Brigham Young made frequent statements to explain his attitude toward dance:

Those that have kept their covenants and served their God, if they wish to exercise themselves in any way, to rest their minds and tire their bodies, go and enjoy yourselves in the dance. . . .\(^6\)

At the dedication of the Salt Lake Theater, March 6, 1862, he said:

There are many of our aged brethren and sisters, who through the traditions of their fathers and the requirements of a false religion, were never inside a ball-room or a theater until they became Latter-day Saints, and now they seem more anxious for this kind of amusement than are our children. This arises from the fact they have been starved for many years for that amusement which is designed to buoy up their spirits and make their bodies vigorous and strong, and tens of thousands have sunk into untimely graves for want of such exercises to the body and mind. They require mutual nourishment to make them sound and healthy. Every faculty and power of both body and mind is a gift from God. Never say that means used to create and continue healthy action of body and mind are from hell.\(^6\) 9:244

\(^{6}\)Young, _Founding of Utah_ (New York: Charles Scribner's Sons, 1923), p. 329.
\(^{6}\)Widstoe, _Discourses of Brigham Young_, p. 375.
\(^{6}\)Ibid.
I am opposed to making a cotillion hall a place of worship.65
9:194

I am opposed to have cotillions or theatrical performances in this Tabernacle. I am opposed to making this a fun hall, I do not mean for wickedness, I mean for the recuperation of our spirits and bodies. I am not willing that they should convert the house that has been set apart for religious meetings into a dancing hall.66 9:195

Those who cannot serve God with a pure heart in the dance should not dance.67 6:149

If you want to dance, run a foot race, pitch quoits, or play at ball, do it, and exercise your bodies, and let your minds rest.68 6:149

In a speech given in the Old Tabernacle on April 9, 1852, he admonished the people to be careful in their recreations, and not to mingle in such activities when away from the body of the Church. Particularly did he instruct the Elders who were going out as missionaries.

The whole world could not hire a good, honest, sound Presbyterian, of the old fashion and cut, to look into a room where a company of young men and women were dancing, lest they should sin against the Holy Ghost . . . Some wise being organized my system, and gave me my capacity, put into my heart and brain something that delights, charms, and fills me with rapture at the sound of sweet music. I did not put it there . . . It was the Lord, our Heavenly Father, who gave the capacity to enjoy these sounds . . . But the greater portion of the sectarian world consider it sacrilege to give way to any such pleasure as even to listen to sweet music, much more to dance to its delightful strains.69

He continued:

I had not a chance to dance when I was young, and never heard the enchanting tones of the violin, until I was eleven years of age; and then I thought I was on the high way to hell, if I suffered myself to linger and listen to it. I shall not subject my little children to such a course of unnatural training, but they shall go to the dance, study music, read novels, and do anything else that will tend to expand their frames, add fire to their spirits, improve their minds, and make them feel free and untrammeled in body and mind. Let everything come in its season, place everything in the place designed for it, and do everything in its right time.70

65Ibid., p. 578. 9:244.
66Ibid., p. 374. 9:194.
67Ibid., pp. 374-75. 9:195.
68Ibid., p. 375. 6:149.
70Ibid.
According to Spencer, the Young family enjoyed many outings at Brighton Resort and on the Great Salt Lake. President Young built and launched the first pleasure craft, a forty foot boat, used on Great Salt Lake. Aptly enough it was named the *Timely Gull.*

The Mormons were instructed to maintain balance in their day's activities, and not to play until they had discharged the full responsibilities of their religious duties. Most of their recreational activities were held during the winter season, and as the spring farming came on Brigham's people were admonished to bring their dancing parties to a close and to attend to their other labors.

Brigham Young believed that his people should be spiritually rounded in their recreational activities. He said:

> When you go to amuse, or recreate yourselves in any manner whatever, if you cannot enjoy the Spirit of the Lord then and there, as you would at a prayer meeting, leave that place; and return not to such amusements or recreation.  

Later he stated:

> Is there anything immoral in recreation? If I see my sons and daughters enjoying themselves, chatting, visiting, riding, going to a party or dance, is there anything immoral in that? I watch very closely and if I hear a word, see a look, or a sneer at divine things or anything derogatory to a good moral character, I feel it in a moment, and I say, "If you follow that it will not lead to good, it is evil..."

At a dancing party in 1854 he said:

> I consider this a suitable place to give some instructions. The world considers it very wicked for a Christian to hear music and to dance.

Then he went on to justify dancing.

> A public building was built first in every community. This served for the local school, for a house of worship and for socials. Later developments were for church buildings in organized wards which included separate recreation halls attached to each church.

In the days of Mormon beginnings in Utah towns the whole family went to the dance. The babies slept in baskets, boxes, or bundles of blankets, and the children probably romped during the

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72Spencer, *One Who Was Valiant,* p. 170.
73Brigham Young in *Journal of Discourses,* 1:113.
74Widstoe, *Discourses of Brigham Young,* pp. 365-66.
early part of the evening, but slept on the benches as the night wore on.

Parties always were opened with prayer and dancing parties were started with a grand march. Waltzes, polkas, Scotch reels, minuets, and quadrilles kept the merrymakers busy until around midnight, when family basket lunches were opened. Sometimes a group lunch would be served to all. Their parties often continued to two or three in the morning and closed with prayer.

Mormon settlements were made by individuals who were sent. They were chosen for their ability to contribute to economic and social progress. It was the practice to send people of special abilities to colonize a new area. When settlements were made, "President Brigham Young saw to it that each town had its share of good musicians."\(^{75}\)

The Mormon pioneers from the Mississippi Valley environment and those with a more staid eastern heredity preserved many of the more formal types of dances they had acquired as a social heritage. They danced successively on rough grounds, on rough floorings, and finally in amusement halls. They wore the heavy shoes and clothes, first of the emigrant, later of the worker, and eventually of the accomplishing farmer. The surroundings, the clothing, and the environment would sometimes affect the finesse with which a dance figure would be executed.

The conduct of persons at dances during the emigration and into this century would not be considered always "controlled." Reports may indicate that some dances and dancers may have been robust, but they were never rowdy. During the first years in Utah, the performance of dances was generally conservative, stately, and genteel. The unfinished buildings, the orchestra, and the presence of tired and sleeping children, however, did not lend a "ballroom atmosphere."

The emigrants who had been converted in the many mission fields had their own mores and customs. Social activity, recreation, and dancing were the strong assimilation factors that brought them into the group. The desire to play is common to all peoples and was one of the fundamental means of bringing about and maintaining group solidarity. In giving up their homelands and their old mores, and in taking up a new abode and a new religion they were in position for full acceptance of new social ways. The whole territory was isolated socially, geographically, and culturally, and they were in a

\(^{75}\)Kate B. Carter, Lesson Pamphlet of 1944, in Heart Throbs of the West, p. 493.
position to develop their new modes of behavior with no significant objections.

President Brigham Young counselled parents to lead out in recreation with their children. He advised bishops in their settlements to encourage all phases of recreational programs. Sunday Schools were given encouragement to have parties and dances. The Young Ladies' Mutual Improvement Association and the Young Men's Mutual Improvement Association took on the responsibility of recreation in the arts. Emphasis has been given in dance, as may be witnessed in the June Conferences of recent years when the auxiliary organizations of the church bring together participating members from all over the world. Modern dances and the old dances have brought several thousand performers to this annual display, where the presentation is coordinated into a colorful and memorable portrayal of church youth who dance. Brigham Young promoted recreation and dance because it was expedient to do so. The groundwork was laid, but the organizations that carried on his philosophy were developed in later days.

While the Mormons by social and geographic ostracism were able to overcome the opposition of most Protestants to dance, still it should not be thought that they were "left wing" in dancing. It might be called to the attention again that they were admonished not to go to public dances nor to mix with the gentiles, that round dances (partner dances) were kept at a minimum, and that employment of the waist swing was discouraged. They were more "middle of the road." This is what some other groups are doing in the 1850s.

Of all frontier amusements, dancing continued to hold first place. In the towns every new building that went up was the signal for a dance by way of dedication. This was accompanied by the little brown jug and a feast. This custom known as "house warming" was varied by the Methodists who ruled out the dance and liquor, but enjoyed a good meal and games. In more religious communities everybody played authors. Dances were the universal indoor amusement, however. They were held on every holiday, and on any other occasion for which an excuse could be found. They were held in homes, barns, stores, restaurants, courthouses, hotel dining rooms, and even on the prairie.

A man in Buffalo County, Dakota Territory, went to a place about ten in the morning and found the family just arising. The ceiling bore marked evidence of a dance the previous evening; there were marks on it made by male dancers. It was the custom for a gentleman to swing his lady around and kick the ceiling, then swing her around and kick the ceiling again. One
dancer could not kick any higher than the wainscoting but just the same he was considered a good old sport.\textsuperscript{76}

In many other towns of the frontier from 1850-1900 parties were given which would compare with those held by the Mormons on the dirt floors of pioneer cabins, in amusement halls, and in the old Social Hall. That is they had parties, balls, and cotillions in which people conducted themselves with decorum and dignity. Everett Dick reports a number of each variety.\textsuperscript{77}

The dancing in which Mormon people have participated has been of two main types, although the one has been an outgrowth of the other. The typical early American rounds, squares, reels, and waltzes of the 19th Century are now called "folk dances," although it was the "social dance" form of that century. The dance identified with the 20th Century is primarily "social dance" with the revival of the older forms.

The dances of these people did not require a high degree of skill for performance, and they brought the people together in this phase of their living, making an individual participation in group and total solidarity. There was a potency in group relationships and group interaction. Individuals assembled from various sections blended into the group through dancing activity. Dance was a means of assimilation, and of true socialization. Converts from foreign lands, through the gateway of dance activity, had social access to individuals with whom they could have had little language intercourse. With a community of action, and mutual basis for participation, there were sown the seeds of a culture pattern.

The Church of Jesus Christ of Latter-day Saints has continued to give emphasis to dance in all of its reputable forms. Ballet, ballroom, folk, square and modern dance carry a cultural and quality expression. Dance is a contemporary, cultural, creditable activity in Utah, stemming from early Mormon practices and practiced by modern Mormons.


\textsuperscript{77}Ibid., pp. 364-71.
The Passing of the Church
Forty Variations on an Unpopular Theme
Hugh Nibley

A Somber Theme:—Ever since Eusebius sought with dedicated zeal to prove the survival of the Church by blazing a trail back to the Apostles, the program of church history has been the same: "To give a clear and comprehensive, scientifically established view of the development of the visible institution of salvation founded by Christ."¹ To describe it—not to question it. By its very definition church history requires unquestioning acceptance of the basic proposition that the Church did survive. One may write endlessly about The Infant Church, l’Eglise naissante, die Pflanzung der Kirche, etc., but one may not ask why the early Christians themselves described their Church not as a lusty infant but as an old and failing woman; one may trace the triumphant spread of The Unquenchable Light through storm and shadow, but one may not ask why Jesus himself insisted that the Light was to be taken away.² Church history seems to be resolved never to raise the fundamental question of survival as the only way of avoiding a disastrous answer, and the normal reaction to the question—did the Church remain on earth?—has not been serious inquiry in a richly documented field, but shocked recoil from the edge of an abyss into which few can look without a shudder.³

Yet today that question is being asked again, as it has been in other times of stress and crisis, not with the journalistic flourish of Soltau’s Sind wir noch Christen? but with the cautious historical

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¹ Reprinted from Church History, XXX (June 1961), pp. 131-54.
² Hugh Nibley is professor of ancient scripture at Brigham Young University.
appraisal of an H. J. Schoeps, contemplating the age-old tension between eschatology and Church with their conflicting ideas about the Church's future. Can it be that the repugnance of churchmen to eschatology and their coolness towards the authentic writings of the early Fathers are due in no small part to the dim view which the primitive Christians took of the prospects of the Church? The purpose of this paper is to list briefly the principal arguments supporting the thesis that the Church founded by Jesus and the Apostles did not survive and was not expected to. We shall consider the fate of the Church under three heads: 1) the declarations of the early Christians concerning what was to befall it, 2) their strange behavior in the light of those declarations, 3) the affirmations and denials, doubts and misgivings of the church leaders of a later day. Our theme is the Passing of the Church, our variations, designated below by Roman numerals, are a number of striking and often neglected facets of church history.

The Early Christian View:—Christian apologists had a ready answer to those shallow-minded critics who made merry over Christ's failure to convert the world and God's failure to protect his saints from persecution and death: God does not work that way, it was explained, his rewards are on the other side, and his overwhelming intervention is reserved for the eschaton, until which all sorts of reverses can be expected—nibil enim est nobis promissum ad hanc vitam; the prospect of failure and defeat in the world, far from being incompatible with the Gospel message, is an integral part of it.5

(I) Jesus announced in no uncertain terms that his message would be rejected by all men, as the message of the prophets had been before,6 and that he would soon leave the world to die in its sins and seek after him in vain.7 The Light was soon to depart, leaving a great darkness "in which no man can work," while "the prince of this world" would remain, as usual, in possession of the field.8 (II) In their turn the Disciples were to succeed no better than their Lord: "If they have called the master of the house Beelzebub, how much more shall they call them of his household?"9 Like him they were to be "hated of all men," going forth as sheep among wolves, "sent last as it were appointed unto death,"10 with the promise that as soon as they completed their mission the end would come.11

(III) But what of the Church? Those who accepted the teaching were to suffer exactly the same fate as the Lord and the Apostles; they were advised to "take the prophets for an example of suffering
affliction and patience,” and to “think it not strange concerning the fiery trial which is to try” them, but rejoice rather to suffer as Christ did “in the flesh . . . that we may also be glorified together.” After them too the prince of this world was waiting to take over; they too were to be lambs among wolves, rejected as were the Master and the Disciples: “. . . the world knoweth us not because it knew him not.” Knowing that “whoever will save his life must lose it,” they openly disavowed any expectation of success, individual or collective, in this world. (IV) As for the doctrine, it was to receive the same rough treatment, soon falling into the hands of worldly men who would “pervert the gospel of Christ” from a thing the world found highly obnoxious to something it was willing to embrace, for such has always been the fate of God’s revelations to men.

(V) All this bodes ill for the “interval” between the Ascension and the Parousia; the Zwischenzeit was to be a bad time and a long one. What is more, it begins almost immediately, the Apostles themselves calling attention to all the fatal signs, and marvelling only that it has come so soon. As soon as the Lord departs there comes “the lord of this world, and hath nothing in me”; in the very act of casting out the Lord of the vineyard the usurpers seize it for themselves, to remain in possession until his return; no sooner does he sow his wheat than the adversary sows tares, and only when the Lord returns again can the grain be “gathered together,” i.e., into a church, the ruined field itself being not the church but specifically “the world.” After the sheep come the wolves, “not sparing the flock,” which enjoys no immunity (Acts xx: 29) after sound doctrine come fables; after the charismatic gifts only human virtues (I Cor. xiii: 8, 13). The list is a grim one, but it is no more impressive than (VI) the repeated insistence that there is to be an end, not the end of the world, but “the consummation of the age.” It is to come with the completion of the missionary activities of the Apostles, and there is no more firmly-rooted tradition in Christendom than the teaching that the Apostles completed the assigned preaching to the nations in their own persons and in their own time, so that the end could come in their generation.

(VII) It was no imaginary end. When the saints were asked to “endure to the end,” that meant just one thing, as Tertullian observes—to suffer death. When the sorely-pressed Christians need “a strong comfort,” the only comfort forthcoming is the promise of the resurrection and the assurance of salvation “whether we live or die.” Never is there any mention of relief on the way, of happy times ahead, of final victory for the cause, or of the consoling
thought that generations yet unborn will call one blessed. Such assurances belong to a later age; the only encouragement the first Christians ever get is that given to soldiers making a last-ditch stand; they are ordered not to attack but "to have long patience," grimly hanging on "to the end," because only by so doing can they show their worthiness to inherit eternal life.  

But we are told not only of one but explicitly of two ways in which the ancient Church was to make its exit. (VIII) For far more numerous than those true saints who were to give their lives as witnesses were those who were to succumb to the blandishments of false teachers. The fate of the vast majority of Christians was not to be overcome by a frontal attack—true martyrs were relatively few—but to be led astray by perverters. The spoilers do not destroy the vineyard, but "seize the inheritance" for themselves; we read of betrayal, disobedience, corruptions, of deceivers, perverters, traitors, of wrestling the Scriptures, denying the gifts, quenching the spirit, turning love into hate, truth to fables, sheep to wolves, of embracing "another gospel," and so forth. The offenders are not pagans but loudly professing Christians. As, once the prophets are dead, everyone paints their tombs with protestations of devotion, so, "when the master of the house has risen up and shut the door," shall the eager host apply for admission to his company—too late. The apostasy described in the New Testament is not desertion of the cause, but perversion of it, a process by which "the righteous are removed, and none perceives it." The Christian masses do not realize what is happening to them; they are "bewitched" by a thing that comes as softly and insidiously as the slinging of a noose. It is an old familiar story, as Bultmann notes: "... the preaching of Jesus does not hold out any prospect for the future of the people. ... The present people does not behave otherwise than its predecessors who had persecuted and killed the prophets. ... The message of Jesus does not contain any promise of the splendid future of Israel." (IX) As is well known, the early Christians viewed the future with a mixture of fear and longing, of longing for the triumphant return of the Lord, but of deadly fear of the long and terrible rule of the Cosmoplanes that had to come first. So great is the dread of what they know lies ahead, that devout fathers of the Church pray for the indefinite postponement of the Day of the Lord itself as the price of delaying the rule of darkness. (X) The Apostolic Fathers denounce with feeling the all too popular doctrine that God's Church simply cannot fail. All past triumphs, tribulations, and promises, they insist, will count for noth-
ing unless the people now repent and stand firm in a final test that lies just ahead; God's past blessings and covenants, far from being a guarantee of immunity (as many fondly believe) are the very opposite, for "the greater the blessings we have received, the greater rather is the danger in which we lie." The case of the Jews, to say nothing of the fallen angels, should prove that we are never safe. God will surely allow his people to perish if they continue in the way they are going—he will hasten their dissolution: "Since I called and ye hearkened not . . . therefore I in my turn will laugh at your destruction . . . For there will come a time when you will call upon me and I shall not hear you." The Apostolic Fathers compare the Church to fallen Israel, and confirm their solemn warnings by citing the most lurid and uncompromising passages of scripture. (XI) They see the Church running full speed in the wrong direction, and in great distress of mind plead with it to do an about-face "before it is too late," as it soon will be. For their whole concern is not to make new converts, but rather "to save from perishing a soul that has already known Christ," seeing to it that as many as possible pass "the fiery test ahead," keep the faith that most are losing, and so reach the goal of glory beyond. They know that the names of Christ and Christian carry on, but find no comfort in that, since those names are being freely used by impostors and corrupters, whom "the many" are gladly following. (XII) The call to repentance of the Apostolic Fathers is a last call; they labor the doctrine of the Two Ways as offering to Christian society a last chance to choose between saving its soul by dying in the faith or saving its skin by coming to terms with the world. They have no illusions as to the way things are going: the Church has lost the gains it once made, the people are being led by false teachers there is little to hinder the fulfillment of the dread (and oft-quoted) prophecy, "... the Lord shall deliver the sheep of his pasture and their fold and their tower to destructions." The original Tower with its perfectly cut and well-fitted stones is soon to be taken from the earth, and in its place will remain only a second-class tower of defective stones which could not pass the test. In the Pastor of Hermas (Vis. iii.11-13) the Church is represented as an old and failing lady—"because your spirit is old and already fading away"—who is carried out of the world; only in the world beyond does she appear as a blooming and ageless maiden. The Apostolic Fathers take their leave of a Church not busily engaged in realizing the Kingdom, but fast falling asleep; the lights are going out, the Master has departed on his long journey, and until he returns all
shall sleep. What lies ahead is the "Wintertime of the Just," the
time of mourning for the Bridegroom, when men shall seek the
Lord and not find him, and seek to do good, but no longer be able
to."45

Strange Behavior:—What the strangely negative behavior of the
first Christians suggests is less the expectation of an immediate
Parousia than the shutting up of the shop until a distant reopening.
(XIII) It has often been noted that their public relations were the
world's worst, that they "could not and did not court publicity out-
side the movement."46 In sharp contrast to the later Church, they
were convinced, as Hilary observes, that the Church "could not be
Christ's unless the world hated it."47 The disciples, following the ex-
ample and precept of their Master, made no effort to win public
sympathy and support.48 This hard and uncompromising attitude
has puzzled observers in every age, and indeed it makes little sense
in an institution seeking either to convert the world or to survive in
it.49 None knew better than the Christians themselves that their in-
transigence had no survival value, and yet they went right on "turn-
ing the world upside down" and mortally offending respectable
people.

(XIV) The first Christians maintained a strange and stubborn
reticence on certain matters (including their beliefs about the second
coming), even when their silence led to serious misunderstanding
and persecution.50 Even among the members the teaching was care-
fully rationed, for it was not the trivia but the high and holy myster-
ies, the most prized things of the Kingdom, that were carefully kept
out of circulation,51 so that Origen can report no clear official teach-
ing in his day "not only regarding minor matters, but on the very
first principles of the gospel."52 Critics and scholars since Celsus
have been puzzled by this early Christian reticence on matters which,
if the Church was to carry on, should have been highly publicized.53
And while Christians since Irenaeus have categorically denied that
any teachings of the Apostolic Church were withheld, they have
done so only to avoid the alarming implications of that primitive
Christian reticence.54

(XV) Consistent with the policy of reticence is the strict limita-
tion placed on the missionary activities of Jesus and his disciples,
both in time and place, and their firm rejection of the highly success-
ful proselytizing methods of the Jews. In his recent study of this
anomaly, Joachim Jeremias has concluded that while Jesus did in-
deed envisage a universal call to the nations, he thought of it as
coming only at the eschaton and not at the time of his mortal mis-
sion, which clearly did not have world conversion as its objective.\textsuperscript{55}

(XVI) No less striking is the conspicuous absence of any missionary organization in the Apostolic Church, and the complete indifference of the Apostolic Fathers to the great business of converting the world.\textsuperscript{56} Their prayer for the Church is to be gathered out of the world, not spread abroad in it, and to be caught up into the Kingdom, not to build it here.\textsuperscript{57}

(XVII) Instead of settling down as the later Christians sensibly did to long-term projects of conversion, the early Christians were driven by the "keen sense of urgency and stress" that fills their writings. "The time is short" was the refrain, and the missionaries had only time to give a hasty warning message and be on their way. It seems, according to K. Holl, that the Apostles went about their business ohne für die Zukunft zu sorgen—without a thought for the future.\textsuperscript{58} What strange missionaries! They never speak of the bright future ahead nor glory in its prospects, but seem quite prepared to accept the assurance that they would preach to a generation that would not hear them and that, as in the days of Noah, the end would follow hard upon their preaching.\textsuperscript{59}

(XVIII) But if the early saints mention no glorious future for the Church, when that should be their strongest comfort, they do shed abundant tears when they look ahead. If the fall of Jerusalem and the Temple was to be the great opportunity for the Church that later theologians insist it was, Christ and the early saints were not aware of it, for they give no indication of regarding the event as anything but tragic.\textsuperscript{60} Paul viewed the future of the Church "with tears" as, according to early accounts, did other leaders.\textsuperscript{61} Apocryphal writings describe the Apostles as weeping inconsolably when Jesus leaves them to their fates, and in turn the Church shedding bitter tears for the loss of the Apostles, that leaves it without guidance and counsel.\textsuperscript{62} Whatever their historical value, such accounts convincingly convey a mood, and Kirsopp Lake recommended Browning’s terrible \textit{Death in the Desert} as the best background reading for understanding the state of mind of the Church at the passing of the Apostles—all is loss.\textsuperscript{63}

(XIX) The failure of the Apostles to leave behind them written instructions for the future guidance of the Church has often been noted and sadly regretted. It is hard to conceive of such a colossal oversight if the founders had actually envisaged a long future for the Church. The awkwardness of the situation is apparent from R. M. Grant's explanation of it, namely, that the Apostles "did not live to see the Church fully organized and at work."\textsuperscript{64} As if they should
wait until the work was completed before giving instructions for completing it! Actually the most tragic disorganization and confusion followed hard upon the passing of the Apostles, according to Hegesippus, and as a direct result of it. Plainly the early leaders made no careful provision for the future, even as they "failed to compose anything that could properly be described as 'church-history' . . ." in spite of their great interest in times, seasons, and dispensations, and the imperative need and accepted use of sacred history in the economy of religious organizations.

(XX) Then there is the total neglect of education in the early Church, which G. Bardy would justify with desperate logic, arguing that education for the young was neglected because the Church got its membership from converts among the adult population—fiunt, non nascuenteur Christiani. And were all those converts childless, and were there no children in the Church for those three long centuries during which it was without schools? In view of the great emphasis placed on education by the Church in the fourth century, its total neglect in the preceding centuries can only have been deliberate. Well might E. de Faye find it strange that Jesus "ne songe nullement à former une école de jeunes hommes qui . . . seraient les héritiers de sa doctrine," for if there were to be heirs of the teaching such a provision was indispensable. Why no education, then? Actually the Apostolic Fathers were greatly concerned about education, warning their people against the bad education of the world, and chiding them for their neglect of the only education that counted—that which prepared the young for the next life.

(XXI) Neglect of standard education was matched by an equally disturbing indifference to the social and political problems which would necessarily be of vital concern to any enduring social institution. For years liberal scholars sought to discover a Social Gospel where none was to be found, and it is indeed hard to believe that a religion of brotherly love could so persistently ignore the crying social ills of the day. But the Christians excused themselves with the explanation that more urgent business had priority—they had no time for such things. Why not, if the Church was to continue?

(XXII) And why should a permanent and growing Church refuse to invest in lands and buildings? For a long time eminent churchmen endorsed the old Christian prejudice against the construction of sorely needed church buildings. But what could have been the original objection to anything as innocent and salutary
as the building of a church? The early Christians tell us: the Church cannot own real estate (they explain) because it is only here temporarily, and must never be allowed to forget that fact.²³ (XXIII) Hans Lietzmann has shown that when "the Church sojourning at Rome" or elsewhere writes to "the Church sojourning at Corinth" or elsewhere it means that both Churches are thought of only as temporary visitors in their cities: collectively and individually the Church was here on a brief pilgrimage. They were das wandernde Gottesvolk, strangers and pilgrims all, destined for but a short time upon the earth.²⁴

Planned Martyrdom:—The strongest argument for the survival of the Church is the natural reluctance of men to accept defeat—even temporary defeat—for the work of God: ... tot denique martyria in vacuum coronata? cries Tertullian, ignoring Polycarp's assurance that "all of these ran not in vain, because they are with the Lord in the place which is their due, with whom they also suffered. For they did not love this present world."²⁵ (XXIV) The loudly proclaimed objectives of the first martyrs do not include the future prosperity of the Church. In bidding farewell to Jews and Gentiles Paul announces that his missions to them have been successful, not in terms of converts, but of clearing himself of a terrible responsibility: henceforth their blood is on their own heads; he has fulfilled his assignment successfully, for a crown awaits him—on the other side.²⁶ "Thus it appears," writes O. Cullmann, "that the coming of the Kingdom does not depend upon the success of this 'preaching' but only on the fact of the proclamation itself."²⁷ What does depend on the preaching is 1) the salvation of the preacher, who is under condemnation unless he bears witness and frees himself of "the blood of this generation," and 2) the convicting of a wicked world which must be "without excuse" in the Day of Judgment.²⁸ The preaching is not to convert the world but "for a witness"—martyria occurs more than six times as frequently as kerygma in the New Testament—and it has long been recognized that the primary qualification and calling of an Apostle was to be an eye-witness.²⁹ The calling of a witness is to preach to an unbelieving generation ripe for destruction, with the usual expectation (as the name "martyr" indicates) of being rejected and put to death.

(XXV) The strange indifference of the early martyrs to the future of a Church for which later ages fondly believed they gave
their lives has not received the comment it deserves. In a world
in which a noble altruism was constantly on the lips of orators, in
a society whose model citizen was that Pius Aeneas who promised
his afflicted followers that grateful generations to come would
call them blessed, and in a sect which placed brotherly love before
all else, the Christian martyrs, unlike the pagan martyrs or Christian
heroes of later times, never take comfort in the thought that others
will profit by their sufferings, or that their deeds will be remem-
bered and their names revered in ages to come. Ignatius, Andrew,
and Perpetua will neither live nor die for the Church, but talk of
nothing but their personal glory with Christ hereafter, "for while
he suffered for us, we suffer for ourselves."80 This concept of
martyrdom is the opposite of that which later prevailed, as Dionysius
of Alexandria points out in a letter to Novatus, noting that where-
as the early martyr was concerned "for his own soul alone . . .
today the martyr thinks in terms of the whole Church."81 Since the
latter is the more humane and natural view, there must have been
a very good reason for ignoring it. It could not have been that
primitive Christians enjoyed suffering, for they did not;82 nor were
they as self-centered even as the later Christians, who found in
martyrdom the solace of matchless public acclaim and undying
earthly renown.83 The very tears of the early leaders show plainly
enough (as Chrysostom often observes) that they were genuinely
concerned about the future. If, then, the martyrs refuse to think
and speak in terms of a continuing Church, it is not because they
are peculiarly self-centered people, but simply because they see no
future for the Church.

(XXVI) So firmly fixed in the Christian mind is the convic-
tion that every true Christian, every saint, is by very definition a
martyr, that when persecutions ceased devout souls felt themselves
cheated, and new ways and means of achieving martyrdom had to
be devised, though they were never more than substitutes for the
real thing.84 A telling argument for any sect seeking to prove its
authenticity has ever been the claim to have more martyrs than the
others85 while the largest Church of all at the peak of its power
must needs describe itself in pathetic terms as a persecuted little
band of saints—for tradition will not allow any other kind of
church to be the true one.86 From the beginning the Church is a
community of martyrs, whose proper business is "nothing else than
to study how to die";87 and though "the final note is of the vic-
tory of God," as C. T. Craig observes, before that happy culmina-
tion John "seems to have anticipated a universal martyrdom for the Church." 88

The Great Gap:—That ominous gap in the records which comes just at the moment of transition from a world-hostile to a world-conditioned Christianity has recently received growing attention and a number of interesting labels, such as the lacuna, the eclipse, the void, the great vacuum, the narrows, the period of oblivion, etc. 89 Brandon compares it to a tunnel "from which we emerge to find a situation which is unexpected in terms of the situation which went before." 90 (XXVII) The church, that is, which comes out of the tunnel is not the church that went into it. The Great Gap is more than a mere absence of documents; it is an abrupt break in the continuity of the Church, so complete as to prove to Theodore Brandt that "the living faith cannot be transmitted from past ages . . ." which is at least an admission that it has not been. 91 The early Christians knew they were approaching a tunnel; they were acutely aware of "the terrible possibility of apostasy for the church"—not merely of apostasy from it, 92 and never doubted "the general apostasy which would precede the coming of the Messiah." 93 And the church of the next age is just as aware of having passed through the tunnel, and losing its most precious possessions in the process. (XXVIII) For after the passing of the Apostles "le vide est immense," since it was the presence of living witnesses that had made the original Church what it was. 94 Henceforth the "Elders" of old are referred to as a fabulous race of beings endowed with gifts, powers, and knowledge far exceeding anything found on earth any more, and mere proximity to the Apostles and the Elders becomes a special mark of sanctity and authority. 95 As "the great lights went out" the most devoted Christians engaged in a wistful "Operation Salvage" to rescue what might still be saved of "those things which came by the living voices that yet remained." 96 What more eloquent commentary on the passing of the Church?

(XXIX) At the same time a horde of deceivers "who up until then had been lurking in dark corners," as soon as they saw that there were no more Apostles left to call them to account, came boldly forth, each claiming that he alone had the Gnosis which the Lord had secretly imparted to the Apostles after the Resurrection. 97 Strangely, they met with no official opposition: the Fathers who oppose them emphatically disclaim any Apostolic authority and, what is more, know of no one else who might have it. 98 "Nous
some incapable," writes D. Busy, "d'expliquer comment, la terre entière se trouvant evangelisée, les prédicateurs de l'Evangile ont l'air de disparaître et laissent le champ libre aux faux messies et aux faux prophète; comme . . . la bête de la mer ne rencontre plus la moindre résistance." The prophecy (II Thess. ii:22) is no more puzzling than the event, for the second century, the great moment of transition, is no age of faith but "par excellence the age of Heresy." 100

It was not a case of reformers or schismatics attacking the main Church—the problem was, since the Christians had always rejected with contempt the argument of mere numbers, to find the true Church among a great number of sects, each claiming to be the one true original article and displaying facsimiles of ancient spiritual gifts, rites, and officers to prove it. 101 Justin knows of no certain norm for distinguishing true Christians from false, and Irenaeus struggles manfully but vainly to discover one. 102 While the perplexed masses asked embarrassing questions and flocked to the banner of any quack who gave promise of possessing the gifts and powers, especially prophecy, which it was commonly felt the Church should have inherited, 103 even the greatest churchmen hesitated and wavered, unable to resist the appeal of the old charismatic Christianity or to decide just where it was to be found. 104 In the end, in Harnack's words, "Gnosticism won half a victory," for if the "Gnostics-so-called" had to default on the electrifying promises which they could not fulfill, neither was any found to match their false claims with the genuine article, and the great surge of hope and enthusiasm that had carried the Gnostics on its great crest subsided in disillusionment and compromise. 105

(XXX) Still, the constant revival through the centuries of the old stock Gnostic claim that the one true Apostolic Church has by some miracle of survival come down to the possession of this or that group, is a perpetual reminder of the failure of subsequent Christianity to come up to the expectations of the first Church. 106

(XXXI) For the chronic discontent which haunts the Christian churches is by no means limited to the lunatic fringe. The vigorous beginnings of monasticism and pilgrimage were frankly attempts to return to the first order of the Church, with its unworldly austerities and its spiritual manifestations, and as such were viewed by official Christianity as a clear vote of no-confidence—a rebuke and repudiation of the system. 107

(XXXII) Modern students have agreed in describing the second generation of the Church as a time of spiritual decline and low vi-
tality, of "torpor and exhaustion . . . a dull period of feeble originality and a dearth of great personalities."\textsuperscript{108} "Enfin," writes G. Bardy, "c'est le tzieur qui domine."\textsuperscript{110} Doctrinally it was a definite "Abfall vom Evangelium," with the basic teachings altered and denatured beyond recognition.\textsuperscript{110} As "the understanding of the Spirit . . . became lost . . . and the Christian had to rely on his own powers," that Christian became calculating, complacent, and respectable, in a word, all that the first Christian was not.\textsuperscript{311} The over-all impression, Goguel reports, is "definitely one of decadence."\textsuperscript{112}

Yet the same voices that bring these charges against the second generation unanimously approve the new mentality as a necessary coming down out of the clouds, a new-found sobriety and maturity, a sensible acceptance of the facts of life, as "uplifted eyes . . . turned back to earth to find their assurance in hard facts."\textsuperscript{113} At last, we are told, the Christian could enjoy "what he had been missing so long, the consideration and respect of the outside world."\textsuperscript{114} Only by scrapping the old "evangelical eschatology," according to one Catholic authority, could "Christian morality and the Church itself . . . take on larger dimensions," this being (according to another) a necessary step "towards wider horizons than those to which the Galilean nucleus had chosen to confine itself."\textsuperscript{115} One may well ask how wider horizons and larger dimensions could be achieved by a Christianity admittedly "more hard and fast, less spontaneous, and in a sense, more cramped" than what had gone before; J. de Zwaan, who describes it thus, marvels "that the main stream of the gospel tradition could pass through these narrow streams."\textsuperscript{116} But the larger dimensions were the intellectual splendors of Hellenism, towards which the Gnostic agitation had hurried the feet of the Church, the new Christian culture substituting erudition for inspiration, the rhetoric of the schools for the gift of tongues, a \textit{numerus episcoporum} for the \textit{Spiritus per spiritalem hominem},\textsuperscript{117} and the orderly mechanics of ritual for the unpredictable operation of the spiritual gifts as "eschatological consciousness changed into sacramental piety."\textsuperscript{118} "Christianity," wrote Wilhelm Christ, "was squeezed into a system congenial to pagan-Greek-rationalist thought, and in that safe protective suit of armor was able to face up to the world; but in the process it had to sacrifice its noblest moral and spiritual forces."\textsuperscript{119} In paying the stipulated price for survival, the Church of the second century proved what the early Church knew so well, that whosoever would save his life must lose it.\textsuperscript{120}

(XXXIII) The sensational change from the first to the second generation of the Church was not, as it is usually depicted, a normal
and necessary step in a long steady process of evolution. It was radical and abrupt, giving the old Christianity when set beside the new "tout l'aspect d'une anomalie," as Duchesne puts it—an anomaly so extreme that many scholars have doubted that the Primitive Church ever existed.\textsuperscript{121} "Rapidity of evolution explains the difference between the gospels and the second century," we are assured.\textsuperscript{122} But rapidity is the sign not of evolution but of revolution, and the second-century upheaval was no part of a continuing trend at all, for after that one tremendous shift there are no more such changes of course in the way of the Church: henceforward fundamental attitudes and concepts remain substantially unchanged.\textsuperscript{123} Alfred Norden has noted that early Christian literature had no literary predecessors and no successors, but appears as a completely alien intrusion into the Classical tradition, an incongruous and unwelcome interruption, an indigestible lump which, however, disappears as suddenly as it came, leaving the schoolmen to resume operations as if nothing had happened.\textsuperscript{124} The march of civilization continued, but it was not the march of the Church.

\textit{Arguments for Survival:}—The arguments put forth by those who would prove the survival of the Church are enough in themselves to cast serious doubts upon it. (XXXIV) The first thing that strikes one is the failure of the ingenuity of scholarship to discover any serious scriptural support for the thesis. There are remarkably few passages in the Bible that yield encouragement even to the most determined exegesis, and it is not until centuries of discussion have passed that we meet with the now familiar interpretations of the "mustard seed" and "gates-of-hell" imagery, which some now hold to be eschatological teachings having no reference whatever to the success of the Church on earth.\textsuperscript{125}

The most effective assertions of survival are the rhetorical ones. We have already referred to the subtle use of such loaded terms as "the Infant Church," "the Unquenchable Light," etc., which merely beg the question. Equally effective is the "quand même" argument, which frankly admits the exceedingly dim prospects of the early Church and the scant possibility of survival and then, without further explanation, announces in awed and triumphant tones: "But in spite of everything it \textit{did} survive!" (XXXV) Survival is admittedly a miracle and a paradox; its very incredibility is what makes it so wonderful.\textsuperscript{126} Ecstatic assertion alone carries the day where any serious discussion of evidence would mark one a cavilling cynic. For this argument comes right out of the schools of rhetoric; its favorite
image, that of the storm-tossed ship which somehow never sinks because it bears virtuous souls, is already a commonplace in the Roman schools of declamation. The thrilling voices that assure us that all of the powers of evil rage in vain are not those of the early Fathers, but of imperial panegyrists and spell-binding bishops of another day, with their comforting pronouncements that God has, as it were, invested so heavily in his Church that he simply would not think of letting it fail at this late date.

The strongest support of this "facile and dangerous optimism" has always been the decisive fact of survival itself, as proven by the undiminished eminence of the Christian name; only, in fact, if one defines apostasy as "a more or less express renunciation" of that name can the survival of the Church be taken for granted, as it generally is. But what is the authority of the Christian label when early Apologists can declare that it has become meaningless in their time, being as freely employed by false as by true Christians? Or when the Apostolic Fathers protest that vast numbers "bear the name deceitfully?" Or when Jesus himself warns that "many shall come in my name," and all of them falsely: "Believe none of them!"

A favorite theme of fiction and drama has ever been the stirring victory of Christianity over all the powers and blandishments of paganism. But this was victory over a straw-man, a papier-maché dragon brought onto the stage to prove to a confused and doubting world that the right had been victorious after all. The early leaders worried constantly, and only, about the enemy within; paganism, long dead on its feet, the butt of the schoolmen for centuries, was not the real enemy at all. (XXXVI) There were, to be sure, areas of doctrine and ritual in which paganism did present a real threat, but precisely there the Church chose to surrender to the heathen, the pious economy of whose splendid festivals and the proud pre-eminence of whose venerated schools, became an integral part of the Christian heritage.

Christians have often taken comfort in the axiom that it is perfectly unthinkable that God should allow his Church to suffer annihilation, that he would certainly draw the line somewhere. This is the very doctrine of ultimate immunity against which the Apostolic Fathers thunder, and later Fathers remind us that we may not reject the appalling possibility simply because it is appalling. (XXXVII) If wicked men can "kill the Prince of Peace," and Belial enjoy free reign as "the prince of this world" where is one to draw the line at what is unthinkable? For Hilary the suggestion that
Jesus actually wept is baffling, paradoxical, and unthinkable—"yet he wept!" If "after the prophets came the false prophets, and after the Apostles the false apostles, and after the Christ the Anti-christ," is it unthinkable that the Church should likewise have a dubious successor? After all, Christians like Jerome found it quite unthinkable that Rome could ever fall, and used identical arguments to affirm the ultimate impregnable of the Church and the Empire. The hollowness of the rhetorical arguments for sure survival has become apparent in times of world-calamity, when the orators themselves have, like Basil and Chrysostom, suddenly reverted to the all-but-forgotten idiom of apocalyptic and eschatology, and asked, "Is it not possible that the Lord has already deserted us entirely?" The question is the more revealing for being uttered with heavy reluctance and in times of deepest soul-searching.

(XXXVIII) How deeply rooted in Christian thinking was the belief that the Church would pass away is seen in the remarkable insistence of the orators of the fourth century that the great victory of the Church which at that time took everyone by surprise was actually a restoration of the Church, which had passed away entirely: "We of the Church were not half-dead but wholly dead and buried in our graves . . . ," the apostasy and the age of darkness had actually come as predicted, and were now being followed, as prophesied, by a new day of restoration. Here was an explanation that fitted the traditional view of the future: the Church, it was explained, is like the moon, a thing that disappears and reappears from time to time. But if the fourth-century triumph was really that "restitution of all things" foretold by the Apostle (Acts iii:21) it could only betoken the arrival of the eschaton, and so the orators duly proclaimed the dawn of the Millennial Day and the coming of the New Jerusalem. (XXXIX) One of the most significant things about "the glorious and unexpected triumph of the Church" was precisely that it was unexpected; everybody was surprised and puzzled by it. It was not what the people had been taught to expect, and the remedy for their perplexity was a bold revamping of the story: "The facts speak for themselves," is Chrysostom's appeal, and Eusebius sets his hand to a new kind of church history, with Success—easy, inevitable Success—as his theme. Traditional concepts were quickly and radically overhauled. The familiar Two Ways were no longer the ways of Light and Darkness lying before Israel or the Church, but the Way of the Church itself, Our Church, versus the Way of the Opposition, whoever they might be. "To endure to the end"
no longer meant to suffer death but the opposite—to outlive one's persecutors and enjoy one's revenge.\textsuperscript{146} The old warnings and admonitions were given a new and optimistic twist: "As it was in the days of Noah" now meant that all was well, since "the rains did not come until Noah was safely in the Ark"\textsuperscript{147}: "No man knows the hour" becomes a \textit{cura sollicitudinis}, a comforting assurance that there was plenty of time and no need to worry;\textsuperscript{148} "... this generation shall not pass away" really meant that the generations of the Church would \textit{never} pass away\textsuperscript{149}. It did not disturb a generation bred on rhetoric to be told that Peter heard with amazement that one should forgive seventy times seven, that being an announcement of the future generations that should believe.\textsuperscript{150} Nor did it seem overbold to explain the prediction that the Apostles should be hated of all men as a rhetorical exaggeration;\textsuperscript{151} or to interpret the Lord's prediction that men would seek him in vain as proof of his presence in the Church, which would render any searching a waste of time, i.e., vain;\textsuperscript{152} for it is \textit{not} the Lord but the devil who comes "as a thief in the night."\textsuperscript{153}

One might fill a book with examples of such bold and clever rhetoric: the presence of wolves in the Church simply fulfills the millennial promise that the wolf and the lamb shall graze together;\textsuperscript{154} tares in the Church are a sign of its divinity, since it must embrace all men, good and bad, to be God's Church.\textsuperscript{155} What really happened was that the sheep promptly routed the wolves and the wheat overcame the tares—not the other way around!\textsuperscript{155} It was easy to show that all the bad predictions were duly fulfilled—on the heads of the Jews, while all the good promises made to \textit{them} were properly meant for the Christians. The tears of the Apostles were actually the happiest of omens for the Church, exciting in all beholders, by a familiar rhetorical omens trick, those feelings of pity and devotion which would guarantee unflinching loyalty to the cause forever.\textsuperscript{167} It is fascinating to see how Chrysostom can turn even the most gloomy and depressing reference to the future of the Church into a welcome promise of survival: the very fact that the ancient saints \textit{worried} about things to come proves that there was to be a future, and so—delightful paradox!—they had nothing to worry about!\textsuperscript{158} If it can be said of the orating bishops that "... the true size and color of every object is falsified by the exaggerations of their corrupt eloquence,"\textsuperscript{159} it must also be noted that these were not wanton or irresponsible men, but devoted leaders desperately desirous of assuring themselves and their people of the unassailable integrity of the Church: John Chrysostom repeatedly declares that
the Church is higher, holier, and (above all) more enduring than heaven itself. He could do that (on the authority of Luke xxi:33) without a blush because rhetoric had transferred the Church into a glorious abstraction, a noble allegory, and as such an eternal, spiritual, indestructible entity. On the other hand he had to do it to meet the importunities of those who beset him night and day "unceasingly and everlastingly" with searching and embarrassing questions as to whether the Church still possessed those things which in the beginning certified its divinity.

(XL) Where no rhetorical cunning could bridge the gap between the views of the fourth century and those of the early Church, the latter were frankly discounted as suitable to a state of immaturity beyond which the Church had happily progressed, emancipated from the "childish tales and vaporings of old grandmothers." The learned Fathers of the fourth and fifth centuries boast that the wise and noble who shunned the primitive Church are now safe in a bosom of a Christian society which preaches and practices things that would have frightened off the rude converts of an earlier day, and invoke the eloquence of Demosthenes against the simplicitatem rusticam of the literal minded. This has been the official line ever since, and modern churchmen duly shudder at the thought of being "at the mercy of the primitive Church, its teachings, its life, its understanding . . .," and congratulate themselves on having outgrown the "fond imaginings of the Apostles."

The Dilemma:—Ever since the recent "rediscovery of the importance of eschatology within the New Testament" scholars have been faced, with a choice between eschatology and history—tertium non datur. Actually there has always been a third choice, namely to accept the passing of the Church as the fulfillment of prophecy in history. But that, of course, is exactly what church history will not allow: "... modern New Testament critics," writes R. M. Grant, "insist on the priority of the church to its written records." The Church must be rescued at all price. For that reason it has been necessary to ignore Jeremias' simple and obvious solution to the "vollendeter Widerspruch" between the conflicting missionary policies of the early Church: the limited preaching belongs to one act of the play, the world preaching to another. This is a thing that Christians will not concede, for if the Church is to remain on the scene, the drama must be one act or none.

To preserve this hypothetical unity students have ascribed to the first Christians a fantastic one-package view of the future in which
all the culminating events of prophecy are fulfilled at a single stupendous blow, "gathering up into one great climax the many judgements the . . . prophets had foretold." 175 When the Great Event failed to transpire, the Great Delay turned the Great Expectation into the Great Fiasco (the terms are not ours!), the Church passing through the Great Disappointment to the real fulfillment, the Great Triumphal Procession of the Kingdom through the World. Such an unflattering view of the founders' foresight is forced on the experts by a constitutional inability to think of the Church as anything but a permanent and growing institution. 174 It was this very attitude, it will be recalled, toward his own church that made it impossible for Trypho the Jew to accept Justin's complicated Messianic history.

But though the "Great Misunderstanding" theory has the merit of preserving the integrity of the Church, it gravely jeopardizes the integrity of its founders while failing to give due consideration to certain peculiar and significant facts, viz., that the early Christians did not predict an immediate culmination of everything, but viewed the future down a long vista of prophetic events having more than one "end"; 175 that not a single verse of scripture calls for an immediate Parousia or End of the World; 176 that there is a notable lack of evidence for any early Christian disappointment or surprise at the failure of the Parousia. 177 While the enemies of the Church exploited every absurdity and inconsistency in its position and made merry over "Jesus the King who never ruled," they never played up what should have been the biggest joke of all—the feverish, hourly expectation of the Lord who never came. For R. Eisler this strange silence is nothing less than "the most astonishing of all historical paradoxes." 178 But what makes it such is only the refusal of the evidence to match the conventional pattern of church history: if there are no signs whatever of blasted hopes and expectations, we can only conclude that there were no such expectations. There were indeed Christians who looked for an immediate coming of the Lord and asked, "Where are the signs of his coming?" but they are expressly branded by the early leaders as false Christians, just as the virgins who expected the quick return of the Master, who "delayed his coming," were the foolish ones. 170

Students of church history have long been taught that whereas the primitive saints, living in an atmosphere of feverish expectation, looked forward momentarily to the end of everything, the later Christians gradually sobered up and learned to be more realistic. Exactly the opposite was the case, for while there is no evidence
that the sober first Christians thought the end of the world was at
hand, there is hardly a later theologian who does not think so:
"From the days of the early church, through the vicissitudes of the
lengthening middle centuries, into the twilight of the medieval day,
the conviction of the world's end . . . was part and parcel of Chris-
tian thought."\textsuperscript{150} It had to be the end of the world, because the end
of the Church was inadmissible. Yet such was not the case with the
first Christians, thoroughly at home with the idea that divine things,
while they are preexistent and eternal, are taken away from the
earth and restored again from time to time.\textsuperscript{151} If the Church comes
and goes like the moon, it is only with reference to this temporal
world where all things are necessarily temporary.\textsuperscript{182} A great deal
of attention has been given of recent years to early Christian and
Jewish concepts of time and history. The present tendency is to
treat the Church as existing "\textit{sub specie aeternitatis}, et pourtant dans
le temps," as a supranatural and eschatological entity, "\textit{eine Schöp-
fung von oben her.}"\textsuperscript{183} This releases it from earthly bonds, as does
Ambrose's declaration that the \textit{civitas} "\textit{which lives forever, because
it cannot die,}" desires only to leave the earth in all possible haste
and be caught up, literally as Elijah was, into heaven.\textsuperscript{184}

To escape the dark interval between the Apostles and the Par-
ousia, scholars have bored two exits. The one recognizes a cata-
strophe ahead but postpones it to a vague and distant future,\textsuperscript{185}
while the other admits that it was near at hand but insists that the
damage was not so bad after all.\textsuperscript{186} Thus both convictions of the
early Church, that the end was near and that it was to be \textit{disastrous}
receive reluctant confirmation—for no one suggests that only a dis-
tant and partial disruption was expected. There is a third escape-
hatch, around which there has been much milling and crowding in
recent years, but it seems to be only a false door, a semantic exer-
cise in which the conflicting claims of Eschatology and History are
simply placed side by side and declared reconciled in various in-
genious and symbolic ways. If this vast literature of double-talk,
"bewildering in its variety,"\textsuperscript{187} shows any perceptible trend it is an
inclination to have Eschatology, since it can no longer be brushed
aside, swallowed alive by the Church: " . . . the Church is an 'escha-
tological community,' since she is the New Testament, the ultimate
and final. . . . The doctrine of Christ finds its fulness and com-
pletion in the doctrine of the Church, i.e. of 'the Whole Christ.' "\textsuperscript{188}
Such language actually seeks to de-eschatologize eschatology by
making 'mythical and timeless what they [the early Christians] re-
garded to be real and temporal.'\textsuperscript{180}
More to the point is the searching question of Schoeps with which we began this survey, whether after all the real Church may not have been left behind in the march of History: “Waren sie am ende doch die wahren Erben, auch wenn sie untergingen?”

We have indicated above some of the reasons for suggesting that the Church, like its Founder, his Apostles, and the Prophets before them, came into the world, did the works of the Father, and then went out of the world, albeit with a promise of return. Some aspects of the problem, at least, deserve closer attention than students have hitherto been willing to give them.

FOOTNOTES

3. While suspecting the worst, the Fathers could not bring themselves to admit it, according to John, Bishop of Bristol, Ecclesiastical History of the Second and Third Centuries (London, 1894), 48-51. See below, note 138.
14. Matt. xvi:24-26; II Cor. iv:8-16; Phil. iii; Luke xii:22-34.
16. It ends only with the second coming. Matt. xiii:30, 39-43; Mark xii:9; II Thess. ii:8; Didache, xvi; Justin, Dial., ii, 2.
23. Scor. ix-x, xiii-xv; Ignatius, Polycarp, iii; Ephel., ix.
24. Heb. vii:11; Phil. iii:8-10; I Pet. i:4-6, 9; II Clem. v. 2-4; Barnabas, viii. 6; Justin, Apolog. i. 57; Tertull., Apolog. i.
25. Mark xiii:34-37; I Pet. iv:12f. Like soldiers, each to remain at his post, I Clement, xxxvii, xxi; Tertull., Ad marty. iii; II Clem. v; Ignat., Polyc. iii; Magnes. v; Barnabas, ii. 1.
27. Early sources speak of two factions within the Church, and of the “seducers” completely exterminating the righteous party, C. Schmidli, Gespräche Jesu . . . in Texte u. Unters., XLIII (1919), 196-8; cf. S. G. F. Brandon, The Fall of Jerusalem and the Christian Church (SPCK, 1951), 54.
28. Luke xii:25ff; Matt. xxi:29. There is a time limit to the promise (Heb. xii:17), and “when the tower is finished, you will wish to do good, and will have no opportunity,” Hermas, Pastor, Vis. iii. 9.
29. Justin, Dial. cx; Hilary, Contra Constant. Imp., iv. in P.L., X, 581B.
30. Gal. iii:1-4. Ignatius describes the corruption with striking imagery as of pleasing and plausible wolves (Philad., ii), a goodly label on a bottle of poison, a deadly drug mixed with sweet wine (Trall., vii), counterfeit coin (Magnes., v), cleverly baited hooks (id., xi), etc.
33. I Clem. xii. 4; xxi. 1; Barnab. iv. 9, 14; Ignat., Ephes. xi. 1. “The last stumbling-block approaches . . .” Barnab. iv. 3, 9; I Clem. vii. 1; II Clem. vii; xvi; Hermas, Vis., ii. 2; iv. 1.
34. I Clem. xv. 4-6; vii; xxxix; lvii; II Clem. vii; Barnab. iv-v; xiii-xiv.
35. I Clem. lviii. The promise of the Paraclete is no guarantee, II Clem. vi. 9.
36. So I Clem. iii-vii; Barnab. ii-vi; xvi; Const. Apostol., vii. 32; Lactant., Div. Inst., vii. 17.
37. I Clem. i.; iii; xii; xii; xlvii; iii; lv; II Clem. xiii; Barnab. ii; Ignat., Ephes. xvii; Philad., ii; Hermas, Vis., ii. 2; iii, ix; Simil., vii; xi. 2; x. 1.
38. II Clem. xv; Didache, x. 5; Ignat., Polyc., i. 2; Ephes., xvii; Philad., i; Hermas, Vis., v; Mand., iv; Simil., x. 14; Barnab. ii. 1; xxi.
39. I Clem. xv; xxx; II Clem. ii; xii; xvi; Barnab., x. 4; Ignat., Ephes., xv; vii; Magnes., iv; Trall., vi; Polycarp., Phil., x; Hermas, Vis., i. 3; Simil. ix. 13, 21.
41. Ignat., Magnes., v; II Clem. vii; Barnab. v; xvii; see K. Lake’s note on Hermas in his Apostolic Fathers (Loeb ed., 1912), ii. 21, n. 1.
42. I Clem. i; iii; xxiv; xix; Ignat., Trall., vii; Ephes., xvii; ix; 9; Hermas, Vis., iii. 5; 10. Cf. Teit. of Hezekiah, ii. 3B-iv. 18.
43. Didache, x. 3; Barnab. xvi; Enoch lxxxi-xlv; lxxvi; Logion No. xiv, in Patrologia Orientalis, IV, 176f; cf. IX, 227f.
44. Hermas, Vis. iii. 5-7.
45. Hermas, Sim. iii; iv; ix; I Clem. lviii; Euseb., H. E. III. xxxxi. 3; V. xxiv. 2.
47. Lib. contra Auct.., iv; in P.L., X, 61B.
48. K. Holl, in Ztschr. f. system. Theol., II (1924), 403-5; S. Dietrich, Le Dessein de Dieu (Neuchâtel, 1948), 19, finds only one case (Mark v:19) in which Christ did not avoid publicity.
49. Origen, C. Cels. ii. 76; iv. 28; Minuc. Felix, Octav. viii-xi; Lactant., Div. Inst. v. 7.
50. Minuc. Felix, Octav. ixf; Justin, Dial. xc. 2; iii (the Parousia a secret); Tertull., Apol., vii; Clem. Recog. i. 52; Clem. Alex., Strom. i. 12; v. 10.
51. Matt. vii:9-17; Clem. Recog. ii. 60; iii. 1; Tertull., Praiser. xxv-xxvii; Origen, C. Cels. I. i. lft; Ignatius, Trall. v.
52. Peri Archon i. 2, 4, 6-10; cf. Irenaeus, IV, xxxiii. 8; II, xxvii. 1-2.
53. Origen, C. Cels. ii. 70; A. Schweitzer, Leben-Jesu-Forschung (Tübingen, 160
54. Irenaeus (loc. cit.) insists that nothing has been lost (cf. I. viii. 1, etc.), yet speaks with awe of the knowledge of the Apostles, I. xiii. 6; III. ii. 2; which Ignatius implies far exceeds his own, Ephes. iii; Magnes. v; Rom. iv. Later Fathers were intrigued by the great unwritten knowledge of the Apostles, D. Thomasius, Dugmengesch. der alten Kirche (Erlangen, 1866), I, 209, 297f.

55. Jesu Verheissung für die Völker (Stuttgart, 1956), 15f, 61f.


57. Didache, x. 5; Ignat. Rom. viii: deu rox proi ton patera — literally.


59. R. Eisler, Iesous Basilieus, etc. (Heidelberg, 1930), II, 237.

60. S. Brandon, Fall of Jerusalem, 7-11.


63. Intr. to the N.T., 62.

64. R. M. Grant, Second Century Christianity (SPCK, 1946), 9.


69. E.g., Hermas, VI. i, iii; II. ii; III. ix; Sm. IX. xix; Mand. xi-xii; I Clem. xxxi. Cf. Euseb., H.E., V, xxviii; Clem. Recog. i. 1-5.

70. See R. Marle, in Études. CCCII (1959), 65ff.

71. Orig, C. Ecel., viii. 74, 72 end: Tertull., Apolog. xxxviii; Const. Apostol. vii. 39; Barnab. ii; iv; I Cor. vii. 29-32.


73. Hermas, Sm. i. 1; II Clem, v; Cyprian, De mortal, xxv, in P.L., IV, 623B.

74. Gesch. d. alten Kirche (Berlin, 1932-4), II, 41f; E. Küsemann, Das wandernbe Gottesvolk (Göttingen, 1939), 51ff.

75. De praescr. xxvii-xxix; Polycarp, Phil. ix; II Clem. xix.

76. Acts xviii. 6; II Tim. iv. 6-8. Conversion not the object, I Cor. i. 17.

77. In Davies & Daube, Background of the New Testament, etc., 415.

78. I Cor. ix. 16; John xvii; 22; Matt. xxxii. 34f; xxvii. 25; Luke xi. 49-51; Acts v. 28; xxvi. 6; Clem. Recog. I. viii ... lucere non possimus.


81. Euseb., H.E., VI. xlv.

82. Tertull., Apolog. 1; Cyprian, De mortal. xii, in P.L., IV, 61ff.

83. A. Norden, Die Antike Kunstpavta (Leipzig, 1898), II, 418f, contrasts the early and later Christian concepts of martyrdom. The transition is clear in Cyprian, who must warn, non martyres Evangelium faciant, Ep. xv, in P.L., IV, 293A.

84. Cyprian, Ep. viii, in P.L., IV, 255A: De duplici mari. xxv, ib., 982A; Clem. Alex. Strom. iv. 7; Leo, Servo xlvi. 1, in P.L., LIV, 295B-C.

85. So Asterius Urbanus, Contra Montan., frg. iii; vi, viii, in P.G., X, 149B, 153A-B.

86. So Optatus, De schis. Donat. xxv; xxv-xxvi, in P.L., XI, 968f, 979B-986A.


89. P. van Stempvoort, in Het Oudste Christendom en de antieke Cultuur (Haarlem,
1951), II, 331; S. Brandon, *Fall of Jerus.*, 9-11. The imagery goes back to Eusebius. H.E., I. i. 3.


95. Euseb., H.E., III. xxxviii; xxxix; I Clem. xlvii; Polycarp, *Phil. iii*; Ignat., Rom. v; Iren., III, iii. 4; Methodius, *Lib. de resum. vi* in *P.G.*, XVIII, 513B.

96. Euseb., H.E., III. xxxix. 1-4; V. x. 4; xi. 5-5; Justin, *Dial.*, lxxxii; Origen, *C. Cels.*, II. 8.

97. Euseb., H.E., III. xxxii. 7; II. xxvii. 7; II. i. 3; Irenaeus, *I. Praef.*, i.

98. Polycarp, *Phil.* iii; Barnab. i. 5; the case of Ignatius is discussed by J. Reville, in *R.H.R.*, XXII (1890), 285ff.


103. Iren., I. xi. 1-7; xxiii. 3; xxv. 3; xxxix. 1, etc. Euseb., *H.E.*, V. xvi; *Justin, Quaestiones*, Nos. 100, 5, in *P.G.*, VI. 1344f., 1256AB.


117. Tertull., *De publicis*, xxi, in *P.L.*, II, 1080B.

118. R. Bultmann, *op. cit.*, 15.


120. "In the end therefore, it was the Christian doctrine and practice which underwent the change, and society which remained." K. Lake, in *H.T.R.*, IV (1911), 25.


"In Act. ii. 3, P.G., II, 81f, cf. 85; In I Cor., xxxii. 2, P.G., LXI, 265; In Coloss. iii, Hom. viii, in P.G., LXII, 358f, etc.

163. Chrysost., In Ps. cv. 4, in P.G., LV, 283; Jerome, In Is. liv. 1, in P.L., XXIV, 516B; In Is. xiii, ibid., 627B-629A; Origen, C. Cels., iv. 80; P. Archon, II. iv. 3.


169. 'Development' in early Christian Doctrine," Jnl. of Relig., XXXIX (1959), 120.

171. Jesu Verheissung, 47.


174. O. Linton, Prob. der Urkirche, 121, 159.


178. lesous Basileus (Heidelberg, 1929), I, xxvi; cf. S. Franck, in Dieu Vivant, XVII (1951), 17-34.


180. R. C. Petry, in Church History, IX (1940), 55; F. Bäthgen, Der Engelpapst (Halle, 1953), 76.

181. The old dispensation theory: Origen, C. Cels., iv. 11f; R. Milburn, op. cit., 29-31. The Jews had lost and regained the Temple more than once.


190. In Davies & Daube, Eschatol. Background of the N.T., 123.
Toward a Theory of Human Agency

Allen E. Bergin

I am grateful for this opportunity to share my thoughts on science and faith, and I am particularly appreciative of Commissioner Maxwell's suggestion that this occasion also be used as a forum for presenting my own work.

It would be pretentious to attempt a definitive analysis of human agency in a single lecture, for the topic touches every aspect of human experience and, in addition to its breadth, does not lend itself to simple interpretations. One is easily intimidated by the complexity and mystery that infect this domain of inquiry, for agency is not only the key characteristic of human beings but may well be the supreme quality of God himself.

The concept of agency may be subdivided into numerous dimensions such as:

1. The initiation of behavior or the originating of ideas. This may be termed the domain of creation.
2. The processes of decision-making or choosing, that is, the domain of reason.
3. The processes of self-regulation or the domain of will.

These and related topics provide enough substance for several books. For today's purpose, I will simplify and examine only self-regulation. Because this is a complicated topic in itself, I have subdivided further and will propose interpretations primarily of self-control, which is but one aspect of self-regulation.

Self-Control

Self-control would not be a matter for scrutiny if it were not for the pervasiveness of its opposite, namely, a lack or loss of self-
control. Today, we are often taught and we too often act as though everything controls our behavior except the self or the conscious will. Within the LDS Church this is less often so, but then we are too often guilty of the reverse error, that is, assuming that people are always 100 percent responsible for their own acts.

I thus find myself the man in the middle—trying to persuade my professional colleagues that there is such a thing as self-control while at the same time attempting to convince my fellow Saints that human agency has limitations and, in some cases, is nonexis-
tent.

Determiners of Behavior at a Choice Point

All human acts are determined by multiple influences. We may identify six broad classes of influence as: (1) cultural, social or environmen
tal controls; (2) biological factors; (3) habits of response that have been conditioned, especially by childhood experiences; (4) feelings or emotions; (5) thoughts, ideas, or beliefs; and (6) spiritual inspiration.

It would be preferable if human beings acted upon the latter three factors primarily, but unfortunately their behavior is too often dominated by influences outside of their control. If we are to be wise, receive the truth, and take the Holy Spirit for our guide as suggested in D&C 45:57, we must learn to optimize the influence of higher processes in our actions. Otherwise, we lose our power of indepen
dent action and are "encircled about by the bands of death, and the chains of hell" (Alma 5:7) and then "are taken captive by the devil, and led by his will down to destruction." (Alma 12:11.) We shall deal first with the latter state—a loss of power to act inde
dependently.

Absence of Control

As we consider the absence of control, it must be noted that this is a relative statement. Rarely does self-control descend to a zero point; on the other hand, instances of complete self-control are rare. Our degree of control varies between 0 and 100 percent. Some people have much more control than others. Within the same person, the degree of control also varies in different situations. In one area, say eating, one may have low control while in another, say anger, he may have high control.

Loss of control has become a pervasive problem of the modern world. It may be observed in violence, drug addiction, alcoholism, sexual excesses and deviations, obesity, indolence, crime, neuroses,
insanity, and myriads of other manifestations, most of which have been clearly described or condemned and foretold in the scriptures. (II Timothy 3:1-7.) Each of these excesses has its more moderate forms, and they are common among us—surprising as this may seem.

Inhabitants of nineteenth-century western culture were dominated by the problem of overcontrol, as Sigmund Freud so brilliantly perceived; whereas modern culture is plagued by undercontrol, as we see every day in our prisons, hospitals, clinics, and streets.

Undercontrol may follow from cultural norms such as are found in some tribal customs and in the codes of slum street gangs. It may arise from biological defects such as brain damage or hormonal disorders; it may emerge from a particularly traumatic childhood; or it may derive from the consistently bad choices made by otherwise normal individuals. The degree of personal responsibility for actions thus varies in terms of internal and external conditions impinging upon the person.

The most obvious cases of loss of control are found among psychologically disturbed persons. Indeed, one of the hallmarks of psychopathology is that the person reports being out of control. This may take several forms, and I shall describe two of the most common types. One consists of impulse disorders, of which excessive or deviant sexual behavior would be an example. Such behavior is often propelled by strong inner drives such as the need for affection, a feeling of dependency, or biological tension. This is an instance of powerful internal stimulation overwhelming the person’s conscious controls and dominating his behavior. Some homosexuals, for example, seem to be compulsively driven to frequent and sometimes bizarre sexual acts which they report as occurring without the mediation of conscious intent. The act once repeated, the motivation behind it can become so powerful that one is literally in bondage to the demands of biological impulses and related stimuli. The “chains of hell” is an apt metaphor for such cases.

Another cause of loss of control involves the influence of external stimuli. A phobia is a good example. Persons with classical phobias experience from specific sources a degree of dread and an anticipation of harm that are incomprehensible to normal individuals. Such avoidance reactions may occur in response to stimuli as simple as the sight of a spider or as complex as proximity to members of the opposite sex. In these cases, external stimuli have gained
control over behavior and evoke automatic fear and avoidance reactions. In such cases there is a good deal of control over behavior, but it is external control; the person feels "out of control" in the sense that withdrawal occurs whether he prefers it or not. This is a classic illustration of how psychopathology reduces freedom by eliminating the possibility of alternative courses of action; in other words, choice is absent. If you have extreme claustrophobia, you have no choice. A closet is such a threatening stimulus that you cannot enter. If you do not have claustrophobia, you may choose to enter or not, as reason and circumstances require. Your range of available alternatives at a choice point is greater, and in that sense you are freer; you have more self-control, or a greater degree of agency.

When self-control is diminished in some measure or in some areas of one's life, one of several specific mechanisms may be the cause. I will mention only three of many, and I will merely name them, since the limitation of time will not permit ample definitions. They are: (1) *Conditioning*. This occurs most often in childhood when traumatic experiences become paired with certain people, places, or things. Phobias are often products of traumatic emotional conditioning. Conditioned responses are automatic and outside of one's control. (2) *Repression*. This is a sister mechanism to conditioning and involves the pressing into the unconscious of threatening thoughts, impulses, and feelings, which, however, persist in influencing behavior. Responses elicited by unconscious motives thus often seem to occur autonomously and seem to be irrational even though there is a reason behind them. Unconscious forces are some of the greatest challenges to man's rationality and self-control. (3) *Transgression*. Willful or conscious disobedience to moral laws is a misuse of agency; for each such act a measure of agency is lost, and one gradually succumbs to the power of habitual sin. The scriptural reference is "being in the bondage of Satan."

It may seem heretical to propose that for some of mankind agency is extremely limited or nonexistent, but I submit that the processes and examples I have given are based upon valid observations of a worsening human condition and that they are scripturally confirmed as well. I have already cited several scriptural references to this effect and add here the following supporting views:

Brigham Young asserted his views on willful disobedience to God's laws:

*A man can dispose of his agency or of his birthright, as did
Esau of old, but when disposed of he cannot again obtain it—those who despise the proffered mercies of the Lord . . . have their agency abridged immediately and bounds and limits are set upon their operations . . . evil, when listened to, begins to rule and overrule the spirit God has placed within man. (Cited in Widtsoe, 1954, pp. 63, 65.)

Talmage noted that in the Judgment the various forces that can limit agency will be taken into account in evaluating one’s life on earth:

The inborn tendencies due to heredity, the effect of environment whether conducive to good or evil, the wholesome teaching of youth, or the absence of good instruction—these and all other contributory elements must be taken into account in the rendering of a just verdict as to the soul’s guilt or innocence. (Talmage, 1915, p. 29).

In reply to the question of why God has caused civilizations to be destroyed, it may be asserted that the Lord’s actions were acts of mercy in that these nations or peoples had become so wicked that the children growing up among them had no possibility of developing true agency. Their only opportunity was to choose evil and perpetuate it; therefore, they were destroyed. In support of this Joseph Fielding Smith (1960, p. 55) cites the following comment by John Taylor in his book, The Government of God (p. 53):

Hence it was better to destroy a few individuals, than to entail misery on many. And hence the inhabitants of the old world and of the cities of Sodom and Gomorrah were destroyed, because it was better for them to die, and thus be deprived of their agency, which they abused, than entail so much misery on their posterity, and bring ruin upon millions of unborn persons.

Further evidence that agency can theoretically be entirely lost is that Satan’s plan was a real possibility. This must mean that under the right conditions it is possible to totally control human behavior. We know that men can come under the bondage of sin if they choose evil. To the extent that they do they are under Satan’s power, and his plan is implemented to that degree, albeit in the opposite direction of his original proposal. It should be noted here that when we speak of Satan’s control we do not necessarily mean that he or his assistants are personally present or directly involved, for he must operate through lawful processes just as the Lord himself does. The loss of one’s agency may thus mean that Satan has obtained control over a person by the management of natural processes.
which the person willfully permitted himself to get hooked into, or which he was conditioned into during childhood.

A final evidence that agency can be severely limited and that this can occur without the person himself making wrong choices is indicated by our knowledge that child-rearing events can shape future responses so powerfully as to virtually eliminate personal responsibility. This is supported by scriptures which declare that small children are not responsible for their acts and cannot be held accountable for them and that if parents do not properly teach them, the eventual sin is put upon the heads of the parents. If the parents are responsible, they must have instituted negative control over the child’s behavior—control with long-lasting effects. It is interesting that no such parental control is implied in relation to positive behavior. This is logical in that positive child rearing induces agency, that is, self-control in the child; whereas negative child rearing induces the bondage of Satan which eliminates choice unless there is outside intervention. There are numerous scriptures supporting this view. (D&C 29:47; D&C 68:25; D&C 74:4; D&C 93:39.) One of the more interesting is Deuteronomy 5:9: "... for I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me." Joseph Fielding Smith interpreted this as follows: "The real meaning of this visiting of the iniquity is that when a man transgresses he teaches his children to transgress, and they follow his teachings. It is natural for children to follow in the practices of their fathers and by doing so suffer from the parents' iniquity. ..." (1957, p. 83.) The term natural in the foregoing sentence probably can be interpreted as natural psychological processes, such as imitative learning, conditioning, and repression.

The existence of such losses of control or agency has been brought forcefully to my awareness during long hours of counseling as a psychotherapist and as a bishop. I have been convinced by many years of experience that every human being suffers defects of agency and control to some degree and that in a minority of cases the level of control has been so seriously reduced by biological defects or malignant childhood training that they are, in effect, not responsible for their behavior. I am not speaking here of the normal cross-section of human weaknesses, even though they limit agency to some degree; because if we had perfect agency, it is doubtful that this life would be a test for us. Certainly, no one should be encouraged by these remarks to justify his misdeeds on the grounds that he is not responsible for his behavior. Our goal should be to
resist the history of evil, to reverse the sins of our fathers, and to initiate a benign cycle that will traverse the generations and help people establish new levels of self-regulation. There is nothing more pitiful than the person who wants to control his behavior but is unable to do so. Such individuals are buffeted by their own fears and impulses; their behavior is dominated by Satan. In such instances self-effort alone will not suffice.

I would like to share with you two examples from my own experience. In both cases the presenting problem was compulsive or uncontrollable homosexuality.

I found that a complex set of factors was operating in each of these cases. Not only was there a compulsive symptom but there were common underlying predispositions. Of great importance was the fact that each suffered from a phobia—an intense fear of the opposite sex. As personal involvement with a member of the opposite sex increased, anxiety increased until feelings of panic ensued and the relationship was disrupted. In addition, each of these persons lacked an adequate repertoire of social skills appropriate for engaging in normal male-female contacts and for deepening such relationships. And finally, each person had made the error of seeking warmth, security, and intimacy exclusively with members of the same sex and had permitted this pattern to develop into a powerfully reinforcing biological relationship. In doing so, their behavior became dominated by the immediacy of needs for affection and bodily satisfaction to the point that the ability to consciously choose was virtually obliterated. We thus had three factors contributing to a serious diminution of agency: a phobia, a deficient social repertoire, and weakened impulse control.

Our treatment of these cases cannot be documented in detail here, but it consisted first of reducing fears of the opposite sex by means of a technique called systematic desensitization. This consists of reversing the old childhood conditioning of avoidance responses to heterosexual stimuli by manipulating the client’s feeling states so that positive responses are repeatedly paired with and associated with the feared object. This gradually increases control, in that panic is no longer the invariable and automatic response to the formerly phobic events. Secondly, we trained these persons by means of role playing or behavioral rehearsal in appropriate social skills because we soon learned that the removal of the phobic symptoms merely brought about the possibility of heterosexual adequacy. That is, systematic desensitization reduced an inhibition but did not
provide a program of positive approach behavior. Once the new
skills were learned, a third problem remained, namely, that there
was still a compelling sexual impulse that persisted due to a lack
of self-control and the strong biological reinforcement inherent in
the act that made the arousal of control difficult. We therefore in-
stituted a self-control training procedure to assist in the agonizing
struggle with the impulses which these clients had determined to
overcome. Everything we had done up to this point prepared the
way by gradually developing new controls and effectiveness in pre-
viously weak areas, but the critical difficulty still lay before us.

Before proceeding, I should parenthetically point out that if
attempts at self-control of impulses had been initiated without these
other changes, they probably would have failed; failure is the usual
result when self-effort responses alone are implemented. Self-effort
is admirable but ineffective in severe cases where so much control
has been lost. In these instances it is essential to reduce the strength
of factors maintaining the undesirable behavior before proceeding
directly to enhancing will power. This usually requires the assistance
of others who temporarily aid the person in establishing new levels
of control that could not be achieved by self-effort alone. At the
same time, it is equally important to build up positive behaviors
that can provide prosocial satisfactions as alternatives to the negative
behavior that is being inhibited. Simply telling such a person to
"go control himself" will not do.

We next proceeded to develop and apply a method of direct
training in control (Bergin, 1969). This technique involved, first,
a careful assessment of the events immediately preceding the arousal
and consummation of a sexual impulse. This detailed, point-by-point
analysis revealed that a consistent pattern of events led to each oc-
casion where impulse control had been lost. The sequence of be-
haviors thus identified was initially unnoticed and unattended to by
the client. Persistent focusing upon this preimpulsive time period
was necessary before these events became clear and a logical inter-
pretation of the disturbing behavior became possible.

This diagnostic analysis of impulse-related events yielded a strik-
ing view of what was happening during these periods of compulsive,
unwanted consummation. Clearly evident was a spiraling sequence
of stimuli and reactions which, as they mounted in intensity, became
impossible to control. I have described this phenomenon as an im-
pulse-response chain.

An illustration of how the chain proceeded is given as follows
in terms of Stimuli (S) and Responses (R):

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S (male person in public place) R (glance toward person) 
— S (return of glance) R (mild emotion and fantasy plus 
additional glance) — S (establishment of visual contact) 
— R (intensified emotion and fantasy plus movement toward 
person) — S (physical proximity) R (heightened desire) 
— S (heightened desire) R (verbal exchange) — S 
(verbal exchange) R (interpersonal engagement) — S 
(interpersonal engagement) R (intense feelings, memories and 
fantasies) — S (feelings, memories and fantasies) R 
(physical involvement) — S (body contact) R (consum- 
ulatory behavior).

After laborious efforts had identified a number of sequences of 
this type, the client was encouraged to interrupt any impulse-
response chain as soon as he became conscious of its presence. It was 
explained that failures in self-control often occurred because the 
effort to control was applied late in the sequence when the impulsive 
pattern had already reached a high level of intensity. Thus, the un-
exercised and undeveloped control ability was weak compared to 
the strength of the impulse, and it had to be applied early in the 
sequence to insure success.

The client was then instructed to pay close attention to environ-
mental situations and to personal reactions that might set off the 
undesired chain of events. It was evident that in the past he had not 
been aware of these events until they had reached an intermediate 
or high intensity; therefore two or three therapy sessions were de-
voted to repeatedly going over the chains and making them as ex-
plicit as possible.

Techniques for interrupting responses to stimuli early in the 
chains were discussed and, in imagination, practiced during the ses-
sions. These included methods such as immediately switching to 
thoughts or activities unrelated to the chain, but it was always em-
phasized that this be done promptly so as to apply the greatest 
strength of control to the weakest strength of impulse. This pro-
cedure of shutting off impulse-related reactions and immediately en-
gaging in another activity (reading, walking, thinking) was very 
much a simple act of will motivated by the client's desire for change 
and by the hope and compliance engendered by the therapist's in-
structions.

Following this procedure was difficult for the client at first, pre-
sumably because it totally reversed a strongly reinforced habit, but 
by persistence and encouragement he was soon able to practice it
regularly. The client reported his experience in much the same terms in which addicts do. He described it as a feeling of climbing a very steep hill with a large pack on his back. Each effort at control was like another step up this impossible incline; but almost unexpectedly he seemed to reach a crest and the effort was then downhill and easy the rest of the way.

The potency of this technique seems to lie in applying it to a specific problem which arises from an inadequately developed self-regulatory system. The emphasis here is on the assumption that there are such things as primary developmental defects in self-control which are responsive chiefly to techniques that emphasize the self in self-control, namely that the defect lies in the unpracticed will, in the self that does not consciously and vigorously regulate.

Perhaps the most interesting aspect of these cases is the phenomenon of impulse weakening as a direct result of consistent exercise in self-regulation. The result of this effort was that the clients soon gained control of their behavior in the presence of formerly compelling stimuli.

It appears that active resistance to the undesirable response to a stimulus tends to break the stimulus-response chain and the stimuli lose their power to compel or control the individual's behavior. It also appears that the feelings and fantasies formerly associated with this range of stimuli actually disappeared as responses to them.

Another way to describe the results of the self-control method is nicely exemplified by President McKay's advice: "Resist temptation and Satan will flee from you." He declared that this is exactly what happened during the Savior's three great temptations. According to President McKay, because of the Savior's resistance Satan's power had been broken by the time of the final temptation, and he was merely pleading. Then the Savior turned his back on Satan with finality and commanded him to get hence.

Such insight led the Prophet to declare eloquently: "The greatest battles of life are fought within the silent chambers of our own souls." This is the battle for self-control, and there is nothing more majestic than the quiet confidence of one who has achieved it.

The management of self-effort responses has been applied in a number of additional cases, both normal and pathological, with relative success. The process seems to follow a regular pattern which permits theoretical interpretation, although the notions I will now offer should not be dignified by the term theory. Minitheory will suffice.
**Toward a Theory of Self-Control**

Our thesis is that when a person consciously selects a behavioral goal and then finds his pathway to that goal obstructed by habits, impulses, or feelings over which he has little control, he can overcome these obstacles by the exercise of self-effort. Technically it may be stated thus: The power of a consciously perceived stimulus to evoke an undesired response is directly proportional to the frequency with which the undesired response occurs. Decline in the power of such a stimulus complex is a direct function of the frequency with which the individual consciously and effectively resists acting out the usual response. A corollary hypothesis is that stimuli early in the chain of behavior will evoke a weaker response and that responses of that order will be more readily inhibited than those of a higher order. If inhibition occurs more frequently at that level, breaking of the main, over-arching stimulus-response connection will be more frequent and more successful.

The essence of these propositions may be described schematically, but that is not our purpose here. For the mathematically inclined, we briefly suggest the following possibilities:

1. If we place on the abscissa of a graph % of successful resistances from 0 to 100 and place on the ordinate the power of the stimulus to evoke an undesirable response, we should obtain a monotonically decreasing curve having a quadratic mathematical function.

2. A similar function will occur when the time of resistance is placed on the ordinate and is estimated from early to late, while maintaining the % resistance variable on the abscissa.

3. A monotonically increasing curve should appear when % of resistances early in the impulse-response sequence is placed on the ordinate with % successful resistances on the abscissa.

A number of experimental designs follow naturally from the statement of the preceding views. Here are two of the more central ones:

1. Given a group of persons attempting to overcome a habit, those who exercise maximal effort early in the response chain will be more successful than those who do not. Two or more experimental groups could be set up, each of them being instructed to exercise effort at different points in the response sequence. A good example would be a weight-watchers group, some of whom would be counseled to inhibit at the first thought of food, others after a snack was spread, and still others after having ingested the first morsel of some delicacy such as the first piece in a box of chocolates.
2. Groups might be compared which differ not in the timing of inhibition in the response chain but in the proportion of times resistance is exercised in relation to the number of occasions on which the stimulus appears. The hypothesis would be that success would be a direct function of the size of this proportion and that as the proportion of resistances rose, the strength of the evoking stimulus would geometrically decline. It is also probable that a critical ratio or proportion exists and that it may vary for different control problems; therefore, the concept does imply that the description of self-control processes will be ultimately quantifiable to at least a crude degree.

It is of special importance to emphasize that the self-effort or self-control responses alluded to here must occur in a context that optimizes the probabilities for success. This is based on the previous assumption that behaviors at a choice point are multiply determined. If the theorized effects are to occur, other factors must be controlled or minimized, such as biological defects, environmental pathology, conditioned anxiety responses, rewards for undesirable behavior, and incorrect beliefs. There are a number of therapeutic techniques available for achieving such behavioral management, although we cannot discuss them today.

**Characteristics of Positive Self-Control**

A growing substantive literature provides us with an increasingly useful picture of what it means to possess and maintain positive self-control within the context of an effective life style. This moves us beyond the specific details of clinical pathology into the broad sweep of everyday life where control responses are harmoniously blended with expressive behavior into a balanced, self-regulated life.

The first quality of self-control is that it consists of voluntary action, and voluntary behavior requires a choice situation in which at least two incompatible acts are possible. The scriptures tell us that if there were no opposition, no law of opposites, there could be no agency. "And it must needs be that the devil tempt the children of men, or they could not be agents unto themselves." (D&C 29:39.)

A second quality is the prominence of awareness or consciousness in self-control and the mediation of this control by language or other symbolic processes. "An action is truly voluntary only when it can be begun or can be checked by verbal cues." (Guthrie, 1938, p. 174.) A person is responsible when his behavior can thus be guided by symbols. Children, for example, acquire responsibility
as they acquire control of action through language. A similar process occurs in all forms of psychotherapy. Freud stated this succinctly in his epigram, "Where Id is, there shall Ego be." In other words, in the course of therapy the ego gains control over the passions of the id by making the unconscious conscious. (Parenthetically, it is important for students to know that Freud stood for such ideas rather than the libertinism with which his name is associated. He was great man and one not to be ignored by LDS scholars.)

The aspect of self-control next in importance is the role of beliefs or convictions. Terry has said that "character is the ability to inhibit instinctive impulses in accordance with a regulative principle." That is, there is a time and place for expressiveness, but it must be regulated in terms of internal guides such as goals and ideals. Convictions imply a concept of something beyond self, beyond individual need which regulates the processes of goal direction, achievement, and management of a positive life style. Convictions differentiate those who will behave in the "natural" way from those who aspire to the higher planes of civilization and righteousness.

A large number of research studies permits us to outline additional specific dimensions of self-control and self-regulation. These include:

(1) The ability to delay gratification, to resist the temptation of immediate rewards or pleasures in favor of more distant and often higher satisfactions, in accordance with abstract principles of right and wrong. This includes the ability to tolerate tension, discomfort, and frustration.

(2) The ability to discern clearly the connections between means and ends, between behaviors and their immediate and ultimate consequences. It is the inability to maintain awareness of means-ends sequences, that is, to anticipate consequences, that commonly characterizes the impulsive behavior of delinquents and criminals.

(3) The ability to frame one's life and behavior within a future time perspective. The briefer one's time span, the greater is the difficulty with self-control. The more one is capable of long-range planning, the better is his control.

(4) An internal locus of control. Self-regulatory deficiencies often arise in persons who feel that they are the passive subjects of the forces of fate surrounding them. Their external locus of control leads them to behave in ways that only reinforce their belief in fate.

(5) A sensitive guilt response. Guilt is a signal to us that some-
thing is wrong and, in that sense, it is friendly. Guilt aids us in preserving the integrity of our controls just as pain assists us in preserving the integrity of our bodies. If pain did not alert us to physical dangers and diseases, we would soon die. If our guilt mechanisms are not alert to moral dangers, we die just as certainly in a spiritual sense. While it is possible to overdo guilt and become neurotically obsessed with seeming misdeeds, this is not usually the case. Cultivating a positive guilt response is therefore adaptively in the service of effective self-regulation.

A number of additional factors influence degree of control, and I will merely list some of those that my students and I discovered in a study conducted at Teachers College, Columbia University.

COMBINED CONCEPT LIST (N=20)

1. Mood or affective tone and its intensity affect degree of control.
2. Regulation is influenced by the subjectively evaluated importance of the task.
3. Subjectively evaluated liking or disliking for task influences regulation.
4. Existence of external deadlines or other concrete demands affects regulation. Formally structured role requirements are similar and affect self-regulation.
5. Self-imposed plans and structure affect control:
   (A) Short-range schedules, lists, goals, deadlines, routines.
   This can yield over-control and eventual loss of control due to unadaptive rigidity.
   (B) Long-range planning which imposes structure on the general course of life and task behavior.
6. Overcoming inertia to perform a task diminishes difficulty in performing or resisting the task on later trials.
7. Positive or negative social reinforcement influences control in either direction, depending on whether approval or disapproval is involved and which behavior it is contingent upon. (Control or expression may be involved.) How important the social evaluator is influences the potency of this variable.
8. A sense of responsibility and obligation to others influences self control.
9. Feeling loved, accepted, and nurtured by significant others influences degree of regulation.
10. Material reward versus deprivation influences regulation.
11. The degree of confidence, competence, self-esteem, assurance, and security with regard to tasks and decisions influences regulation.

12. Organismic variables influence degree of regulation.
   (A) Fatigue lessens control.
   (B) Physiological withdrawal symptoms lessen control.
   (C) Degree of sickness-health or good-bad physical feeling influences control.

13. Interludes of diversion, relaxation, self-expression, or gratification during periods requiring regulation may facilitate or restrict self-regulation, depending on circumstances.

14. Feeling in control and being able to control seem to increase with age (although there appear to be individual developmental fluctuations).

15. Withdrawing or escaping from the situation may increase control or affect control in a difficult situation.

16. The length of delay of gratification is a function of:
   (A) the subjective importance or magnitude of the situation;
   (B) the amount or power of immediate gratification;
   (C) greater gain or sense of challenge by the delay.

17. The degree of awareness of emotion or impulse influences ability to control.

18. Awareness of a tendency to lose control or of having lost control leads to greater ability to regain control.

19. Understanding the realities of the situation enhances ability to control. Cognitive belief that the situation can be changed is a factor here.

20. Knowledge and understanding of oneself is a factor in regulation.

21. The effect of perceiving others out of control may increase one’s own ability to control.

22. Repetition of irritating, frustrating stimuli may lead to loss of control.

23. Experience and practice in control may enhance degree of control.

24. Undesirable or inappropriate impulses may be channelled by means of substitution, displacement, or fantasy.

25. Awareness of legal sanctions can be an incentive to control.

**SUBJECTS OF STUDY**

1. office worker 2. college undergraduate 3. alcoholic 4. commercial artist 5. neurotic 6. policeman 7. female graduate student

To summarize the characteristics, we may phrase self-control as the ability to direct one's behavior toward general, satisfying goals rather than to be pushed by needs (Murray, Freud, Hull) or pulled by stimuli. One may define self-regulation by stating what it is not. It is not a push-pull theory. One regulates his own behavior; his behavior is not regulated for him by social reinforcement, parental conditioning, authoritarian power, libidinal instincts, or hormonal cycles.

It is the ability, first, to make a choice, to evaluate the consequences of that chosen course of action, and to prize the outcomes, and then it is the capacity to marshal one's energy in effective pursuit of the consequences or goals subtended by that choice.

It is the ability to reflect when the impulse is to act, especially when the impulse to act runs counter to valued habits or when it presents a new course of behavior. It is the ability to act effectively when the course is clear, the ability to force upon oneself consciousness of consequences and the facing of reality when the inclination is to submerge awareness and give the self immediate gratification, that is, the ability to widen perception when the tendency is to narrow it. It is to resist persuasion and to judge for oneself in the sense of Emerson's "Self Reliance."

It is the ability to modulate, to rule feeling, passion, habit, and inclination, not with an iron hand, but rather with a sense of timing and regulation which maximizes outcomes for oneself and others. It is the ability to submerge oneself in feeling when it is useful, appropriate, or right, thus to enrich one's existence. It is thus the ability to delay gratification, but not to avoid it entirely. Like the steam regulator, it permits expression, but only in useful or safe channels.

In general, it is the ability to increase one's freedom in terms of the valued alternatives available, and it merges into the subjective experience of feeling free and self-determined.

**Self-Control, Agency, and Theories of Man**

Today's most prominent academic psychologist, B. F. Skinner of Harvard, has declared that "behavior is determined not from within but from without." He argues that all human behavior is controlled
by external contingencies of reward and punishment, and that the goals of psychology are (a) to understand how the mechanisms of external control operate and (b) to manage these mechanisms so as to obtain maximum control over human behavior in the service of creating a benign society. While much of Skinner's experimental work must be considered of great value, his philosophical pronouncements regarding the nature of man are offensive and, fortunately, unsubstantiated.

Unfortunately, his views epitomize a dominant theme of twentieth-century psychology, which is the embracing of psychological phenomena within a schema of laws, statistical and mechanical, having the purpose of achieving the goal of controlling and predicting human behavior. The primary scientific paradigm for psychology has thus been that of the biological and physical sciences.

My own counterthesis is that human behavior cannot be accounted for within the framework of physicalistic natural laws, even statistical ones, and that the main premises upon which these views are based are false. This may appear to be a dramatic apostasy by a person so deeply involved with and committed to the field of psychology; however, I see it more as a call to reform than as a rejection.

It is my thesis that human behavior may be and often is controlled by the individual himself and that any hypothetical "mechanisms" that enter into this behavior process are self-regulatory mechanisms.

The idea of self-regulation necessarily carries with it a rejection of the usual psychological theorizing as to the "lawful determination" of behavior. It does not, however, preclude the possibility of establishing verbal or mathematical descriptions of behavioral regularities. It only assumes that the individual's habitual manner of making choices and of regulating his behavior must be a crucial ingredient of these formulae. This commitment to the notion of self-generated behavior means that while understanding and prediction may be possible, control of behavior is not possible except in extreme cases of pathology, such as those described, or in unusual instances of environmental control, such as concentration camps or prisons. Thus, while the individual may assist the scientist's theorizing by reporting his style of choosing and self-regulating, this does not give the scientist control of that style.

None of the foregoing should be construed as a repudiation of the field of psychology; many of its observations and techniques are
of great value, and I personally make my living promoting and implementing them. I am instead calling for a radical reform of the ideological assumptions that lie behind much of this work. I hope that I and many of you will be allied with all of those who are calling for the infusion of a new spirit into this field and for the formulation of new theories that square more precisely with our perceptions of human nature as distinct from physical and animal nature. This paper is one step in that direction, and hopefully it is consonant with the following, slightly paraphrased, revelation: "Intelligence, or the light of truth, was not created or made, neither indeed can be . . . all intelligence is independent in that sphere in which God has placed it, to act for itself; otherwise there is no existence. Behold, here is the agency of man. . . ." (D&C 93:29-31.)

In conclusion, I have three brief messages for those of you who are students. First, let me say that while I do not look to psychology for my salvation or that of mankind, I do view it (together with the related behavioral sciences) as one of the most exciting and potentially useful fields of inquiry that exists. While some of its practitioners promote bizarre theories and engage in unethical behavior, the major thrust of the field is a positive and progressive one. I suggest in all candor and sincerity that psychology is as fundamental to the implementation of the principles of gospel living (the Christian life style) as medical science is to the implementation of the Word of Wisdom. Just as biomedical research reveals to us the mechanisms underlying the principles of the Lord's code of physical health and thereby provides us with a more positive control over the health of our bodies, so also, behavioral science informs us of the processes underlying revealed principles of living and provides us with improved power to promote the health of mind and spirit. Psychology is thus as basic to the study of living as biochemistry is to the study of life. It is, in my estimation, the most important secular subject matter for Latter-day Saints to know.

Second, some personal advice. The ideal of self-control is supreme. This life is a test—is a test—is a test. You have not passed until you have endured to the end and are dead. You will be tried every day of your life, whether you know it or not.

Today we are all bombarded by stimuli toward the loosening of moral controls. The provocation is enormous. You must practice self-control and have a strong repertoire of such abilities so that when stress comes, you can cope. Mercifully, the Lord permits us small doses of evil to practice our controls on before we are hit

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with real temptation, but then it comes. We must all be tried, and let me assure you that means a real trial, before we are fit for his Kingdom.

If you are to err, do it on the side of overcontrol—that can be redeemed—but the excesses of undercontrol can have fatal, irredeemable consequences. Therefore, stay close to the Church, follow its leaders, and seek the guidance of the spirit.

As for me, you may wish to know where I stand with respect to the gospel. I believe it is especially important for those of us in psychology to declare ourselves on this matter because we have too often been the pariahs of our own subculture.

I am a thoroughly converted, 100 percent supporter of the doctrines and principles of The Church of Jesus Christ of Latter-day Saints. I believe completely in the spiritual realities and divine manifestations that undergird and reinforce the sweeping fabric of Mormon culture and commitment. I have experienced the indescribable, witnessing communication of divine knowledge, and it has transformed me from humanist to disciple. I do not apologize for nor equivocate in my conviction that the God of heaven is a living, personal reality and that I have an eternal relationship with Jesus Christ upon whom I am dependent for salvation and exaltation. I know that he lives, and I declare in all solemnity as a witness to all men that I know he walked and talked with the Prophet Joseph Smith, that through the Prophet he reestablished the Kingdom of God on earth, and that he presides today over this great Church, inspiring our modern prophet and all associated with him. All this I declare in the name of Jesus Christ. Amen.

REFERENCES


Talmage, J. E. Jesus the Christ. Salt Lake City: Deseret Book Co., 1915.

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