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# The Construction of a Blueprint For a Comprehension Test in Religion

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THE CONSTRUCTION OF A BLUEPRINT  
FOR A COMPREHENSION TEST  
IN RELIGION

By

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
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## VITA

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## TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION .....	1
II. COMPREHENSION IN READING IN GENERAL .....	6
Thomas Aquinas on Comprehension .....	7
John Dewey on Comprehension .....	9
Mortimer Adler on Comprehension .....	12
Other Contributions to the Theory of Comprehension .....	16
Laboratory Research on Comprehension .....	29
III. COMPREHENSION IN READING OF RELIGIOUS SUBJECTS..	39
IV. TESTING OF COMPREHENSION .....	59
V. BLUEPRINT FOR CONSTRUCTING A TEST OF COMPREHENSION .....	75
BIBLIOGRAPHY .....	95

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## CHAPTER I

### INTRODUCTION

"The chief glory of man is not memory or imagination or even capacity to formulate theories but the power to understand what is presented to him from without." (48:75)

Modern educators everywhere deplore the factual and shallow character of modern education and the almost total neglect of the cultivation of the understanding. Comprehension of religious subjects has not fared much better than comprehension in other branches.

Rival philosophies of life and erroneous ideas on the nature and destiny of man so current among educators today are at the root of this trouble which is apparent throughout modern civilization. Catholic education alone has the remedy for this almost universal evil in training the understanding in the light of revealed truth.

Reverend John Cooper gives another no less potent reason for this lack of interest and understanding:

. . . post-Reformation controversy . . . catechesis was largely shorn of its elements of appeal and persuasion and rendered predominantly informational. . . . In apostolic days the appeal centered around the magnetic personality of the Savior. (23:iii)

The foregoing does not minimize the importance of doctrine and the need for clear, precise explanations.

The writer has attempted to construct a blueprint for a test in religion that will follow along the lines of those tests in other subjects as well as in religion which most adequately test comprehension or understanding. In order to do this it was necessary to find in the works of authorities the things they consider to be essential to understanding.

Understanding, according to Webster, is the power to render experience intelligible by bringing perceived particulars under appropriate concepts. McKee says comprehension is merely the understanding or interpretation of the meaning of what is read. (83:94)

Reading is a form of thinking and as such it involves all the steps that go to make up good thinking. There are, however, as many types of reading as there are purposes for reading. McKee gives the following purposes:

1. to secure specific information
2. to understand a situation
3. to form an opinion
4. to verify facts and opinions
5. to obtain and act upon direction
6. to form a basis for judgments
7. to evaluate material
8. to judge the appropriateness of material

9. to increase general information

10. to obtain recreation (83:48-54)

While all the foregoing types are not employed in religious material, many of them are used. With the exception of the last purpose all are considered to be of the work type of reading. McKee gives Dr. Horn's classification of the abilities required for this form of reading:

1. Those knowledges, skills, habits, and attitudes bound up in the ability to comprehend material read quickly and accurately in the light of the problem in mind.
2. Those knowledges, skills, habits, and attitudes bound up in the ability to locate information quickly and accurately in the light of the problem in mind.
3. Those knowledges, skills, habits, and attitudes bound up in the ability to select and evaluate material read quickly and accurately in the light of the problem in mind.
4. Those knowledges, skills, habits, and attitudes bound up in the ability to organize material read quickly and accurately in the light of the problem in mind.
5. Those knowledges, skills, habits and attitudes bound up in the ability to decide quickly and accurately what part of the material should be remembered and how to remember it. (83:72)

Mother Agnes Garvey, quoting from Hilliard's Probable Types of Difficulty Underlying Low Scores in Comprehension Tests, gives the following twelve possible factors affecting comprehension:

1. Low general intelligence
2. Insufficient vocabulary
3. Faulty reading rate



4. Inability to reproduce material read
5. Lip-movements and articulation
6. Lack of organization ability
7. Poor environment
8. Too little reading practice
9. Poor school attendance
10. Small recognition span
11. Lack of motivation
12. Inability to reason (47:35)

From the above lists of purposes, abilities, and difficulties it is plain to be seen that the work type of reading is a complex one. It is this type, of course, that is used in religious material. The involved vocabulary, the deep truths, often impenetrable to human reason; and the implied attitudes make reading in religion one of the most difficult types. The processes regarded as essential to good reading by authorities in the fields of religion and psychology have been applied by the writer to religious material.

Tests that purported to test comprehension and the meager supply of religion tests have been reviewed by the writer. There is only one religion test that has been standardized for the higher grades. This is the Religion Essentials Test by the Reverend Austin G. Schmidt, S.J. This test is designed to measure the extent of a pupil's fund of vital

information. It is not designed specifically to test comprehension; the author says he does not know to what degree it actually does test comprehension.

Some tests compiled for use in non-Catholic religion classes have been reviewed. An account of these tests will be given in Chapter IV.

The dearth of comprehension tests in religion shows the need for more work in this area. The Blueprint in Chapter V has been designed to help meet this need. Future research will probably provide material for tests that will more adequately test comprehension.

## CHAPTER II

### COMPREHENSION IN READING IN GENERAL

Every generation seems to have a tendency to look upon itself as living in an age of enlightenment superior to anything found in earlier ages. Were one to take too seriously the claims of certain educational reformers of our own day, he would be forced to admit that schools in the past did nothing more than demand memoriter learning of the lowest type, and that there was little, if any, insistence on comprehension and comprehensive thinking before the advent of progressive education in the twentieth century. The schools of the past may not have known too much about the psychological components of comprehension, but the fact that they did strive to develop power to understand is evident both from their own professed philosophy and from the achievements of their graduates.

The principles concerning comprehension which we find in modern writers are not a new discovery. They have been expressed in substance many times in the past and can be seen, for example, in the works of Aquinas. Seven centuries ago Saint Thomas published a treatise entitled De Magistro, in which he dealt with all the aspects of learning.

## THOMAS AQUINAS ON COMPREHENSION

Educability, says Aquinas, is a great gift of God to man alone. (81:90) The angels have no need of education, and brute creation is incapable of it. Man alone has insight, the power to see and to solve problems, an intuition of relation, and the ability to know truth; and in addition to these powers a need, not felt by the angels, to make these innate powers operative by a slow process of exercise. For this reason man alone is educable.

If the pupil is to be educated, says Aquinas, four things are required: he must be desirous of truth, self-active, reflective, and free.

Self-activity is the basis of all learning. Teachers, in the mind of St. Thomas, are to guide the pupil to the source of knowledge and to protect him from errors in judgment. He demanded two characteristics in those who would be teachers, scholarship and the capacity to induce or stimulate the process of self-activity. (81:22)

St. Thomas recognizes the necessity of a background of experience, which may be acquired in one of two ways or by a combination of the two; namely, by discovery and instruction. St. Thomas considers discovery more perfect than instruction for the training of the mind, but for acquiring knowledge instruction is more perfect.

"All learning comes from pre-existing knowledge," says Aquinas, quoting Aristotle. Knowledge cannot be infused by symbols. It is the reasoning and the self-activity of the learner that is the cause of the understanding. Experience is the basis for the use of symbols, for it is this experience that gives rise to problems, promotes interest, and creates a desire to solve problems. \*

. . . if the symbols of some things are proposed to someone by a man, either he to whom they are proposed knows those things of which they are the symbols, or he does not. If he knows them, he is not taught concerning them; but if he does not know them, then because the things are unknown, the meanings of the symbols cannot be known, for he who does not know this thing which is a rock, cannot know what this name "rock" signifies. When the signification of the symbols is unknown, we cannot learn anything from them. (81:42-43)

To those who possess sufficient experience, the symbols propose principles which lead to the knowledge of conclusions. It is the process of reasoning from principles to conclusions that causes knowledge.

Reflection is the most important factor in the process of self-activity. The method used by St. Thomas to stimulate this process was the logical one. It must be remembered that he was dealing with adults. Aquinas thought of the elementary school as a place for the provision of materials and the attaining of skills in the use of tools. Here he advocated the psychological approach, for this approach gives the pupil an opportunity to form concepts, or to clarify those

already formed. Using these concepts as organizing principles man makes orderly associations, and from these he interprets.

This teaching is not merely stimulating the pupils to recite or review the contents of their memories. It is soliciting of them to reflect, to judge, to integrate their knowledge, to form their minds. (81:152)

### JOHN DEWEY ON COMPREHENSION

Six centuries have added little, if anything, to the general principles enunciated by St. Thomas Aquinas, who insisted that the pupil must have complete and clear concepts, that by a process of self-activity he must form judgments, and that he must integrate his knowledge. The progressives of today demand no more.

The leader of these progressives is, of course, John Dewey. The following is a very brief summary of the principles for which he stands. (29:10-140)

Thought enriches meaning. To those who are accustomed to think, things are more than signs; they have also a definite significance. Thinking is stimulated by doubt, confusion, perplexity. Unless there is some relevant experience in the mind of the person in doubt, he cannot make a logical plan for the solution of the disturbance. Doubts are caused by our neglect of reflective thinking. As a substitute we take the reasoning of others, follow our humors

Or jump at conclusions.

We must not only know how to think, but we must also have the desire and the will to do it. Dewey suggests three attitudes to develop this desire. (30:205) These are: open-mindedness, whole-heartedness, and responsibility. Using these three suggestions would lead to the learner's being ready to see new ideas, make new contacts, and see the other side of the problem. He must give his whole attention to those points of interest which have value. He must feel responsible for considering the consequences of his acts before doing them. There must be a harmony between his beliefs and his conduct.

Dewey considers curiosity one of the basic factors in extending experience. He gives three levels of curiosity:

The physical level which is simply the trial-and-error method. It can hardly be called intellectual activity.

The social level of curiosity is stimulated by a desire to become more acquainted with the mysterious world. At this stage the child seeks to obtain his information by asking questions. He does not want a scientific reason in answer to his "why" but simply a clearer fact. His curiosity at this level is usually satisfied by the answer received.

The intellectual level of curiosity shows itself in a desire to solve problems arising from close observation of

things. Answers given to his questions are not always satisfactory. He is on the alert to use whatever will help him to answer questions or solve his problem. Curiosity at this level becomes a real intellectual force. (29:31-33)

Suggestion is another aid to thinking. There is a great variety of ways in which individuals use this help. Some need many suggestions to produce thought; others need few. The subject of thought, too, influences the amount needed. Slowness in producing and in following suggestions does not necessarily mean dullness.

Thoughts themselves may range in depth. Some go to the root of things; others are satisfied with externals. If perception is acute, the difference in sign or situation may be readily seen and decisions made after little thought. Time must be given to allow pupils to reflect before answering questions if we wish to exercise them in reflective thinking. Dewey remarks in regard to slow thinking that it is interesting to see that some of those counted dull in their school days do great things in adult life. They dwelt on deeper planes and did not show their knowledge to advantage. (29:38)

When the factors of facility, fertility, and depth are balanced we have continuity of thought. Concentration is intense activity, a constant changing and blending of ideas



tending toward a conclusion.

Good intellectual habits are the result of training. The task of selecting ends and planning acts that require thinking and judging should be given to the young. The child, left to himself, will accept as too difficult the ordering of his thoughts.

Here again, as was the case with St. Thomas Aquinas, we have a blending of two things: the statements of broad outcomes to be sought, and suggestions as to methods of attaining them. We do not find, however, what the worker concerned with testing comprehension needs above all else: a precise and detailed statement of every step that enters into comprehension from the lowest level to the highest. The same limitation is found in general among all those who plead with the schools to devote themselves to the development of comprehension. Their descriptions of comprehension are like the descriptions of the perfectly efficient athlete. The pictures which they paint show the end result without giving in detail the steps by which one arrives at it.

#### MORTIMER ADLER ON COMPREHENSION

Among those most widely known for their efforts to persuade schools and teachers to aim for greater comprehension is Mortimer Adler. Like Aquinas and Dewey, he too pro-

poses general principles which are undoubtedly sound but which leave details unclarified.

"Reading that is reading," says Adler, "entails most intense activity." (2:111) Adler divides all true reading into two types: reading for information and reading for understanding.

Reading is reading only when we are intent on gaining knowledge. This knowledge may be considered to mean simply getting information, knowing that a thing is a fact. It may also mean the higher type of understanding the significance of the facts obtained from reading. In this type we get not only the fact, but why it is the case, what are the other facts concerned with it, in what respects it is the same or different from those connected with it.

Reading for understanding refers to the process of interpreting and evaluating what we take from the words read. These different types of reading require different types of abilities. Reading for understanding requires greater intellectual ability and more skill than reading for information. When the writer is superior to the reader, adjustments must be made by the reader to overcome the obstacle if he is to understand the full import of the writer's message.

Instruction and discovery are the two sources of learning. Both of these are active forms, for both require think-

ing. The materials used are different — in instruction, discourse is used; in discovery, research is employed.

Great emphasis is given to the senses and imagination in research, not enough is made of these faculties in the process of being taught. Instruction requires the same skill as discovery; namely, keenness of observation, and reason trained to analyze and to reflect, but these skills are used differently.

The method of discovery is sometimes "the long way round." Much time and labor are expended on discovering by research what could more profitably be sought through intellectual reading. The critical faculties are not exercised in studying nature, for it offers only what we are prepared to take. It does not challenge our findings. When we read the great books we are forced to battle with great thoughts; some of these are old and familiar ones, others are new and challenging. These books are not easily read, for they demand great mental effort. Those who make the effort have the great authors for instructors and are abundantly rewarded. To read these books to advantage we need more than the power to read; we must be trained in the art of reading. One who has the art of reading can educate himself.

Adler gives the following as reasons for the failure to read for understanding:

1. The importance and extent of the task is underestimated.
2. The reading arts are almost lost. (2:85)

The great books tax the mind. . . Those of a later period are so written as not to require any liberal art on the part of the student. Pupils should be trained in the art of reading, and after they have been trained they should be given matter on which to exercise the art.

Books of this sort call for three readings. The first reading is done to grasp the thought as a whole, to become familiar with the structure, language and thought of the author. The purpose of the second reading is to interpret, synthesize, define the problem of the author, and decide to what degree it has been solved. The third reading is a critical reading. In this reading the reader judges the author, and decides if all parts of his book are in agreement. To do this effectively, other works by the same author and works of other authors on the same subject should be read, and the ideas expressed should be compared and evaluated. Understanding what the author has written always precedes criticizing and judging him. Hence Adler suggests the first and second reading for understanding and the third for criticism and judgment.

The arts that Adler suggests should be taught are the

fundamental practices of reading, writing, speaking, listening, measuring and observing.

Arts are habits. Hence they are not possessed at all by students who can verbally recite their rules. The rules are important only as regulating the performance of acts, which acts, in turn, often repeated, then form the habits, which are the arts as vital transformations of the soul's operative powers. (3:333)

A broad vocabulary to which meanings are attached is of utmost importance if the pupil is to read well. Word study has been stressed by many notable educators during recent years. The study of semantics rewards its students with two language habits:

1. awareness of context
2. practice in multiple meaning

#### OTHER CONTRIBUTIONS TO THE THEORY OF COMPREHENSION

In a work entitled The Meaning of Meaning Ogden and Richards have the following to say about the factors involved in the interpretation of signs: Association between the sign and the referent is brought about by the mental processes of the learner. The three factors, therefore, involved in interpretation of signs are mental processes, symbols and referents.

In all thinking signs are used. Our psychological reaction to them is our interpretation of them. This interpretation is determined by our past experience in similar

circumstances. Signs are not pictures of the object, for I do not know the thing because I know the sign, and vice versa, I may know the thing and not the sign. Signs direct, organize, record, and communicate thoughts, but they have no meaning in themselves. To one who does not bring a meaning to them they give no message. Symbols are not related to their referents in any way other than this, that they have been chosen to represent the object.

Signs have many degrees of complexity. Simple signs are those that refer to one or more objects. The more complex symbols refer to relationships, to degrees of those relationships, and to abstract and general ideas. These latter are difficult to define because their connotations are not the same for all.

Meaning is sometimes confused with sensory images and with affective states that follow in the wake of reading. These images and states may be a reaction to isolated words and should not be mistaken for understanding. When connotations are strong and emotions aroused, we are likely to be ruled by feeling rather than by the dictates of reason.

Unless insight into relations and consequences enters into the facts and information obtained from reading, it cannot be said that the material read is really understood.

In order to bring our immaterial thoughts to another

they must be materialized. The word is the material used to convey ideas. Strictly speaking, an idea cannot be conveyed from one person to another, for the words used to express the idea may not have the same meaning to another, or the thought expressed may be only words to him unless he converts them into an idea by his own mental powers.

To determine the influence of vocabulary as a factor in reading with ease and comprehension, Hilliard correlated the results of four comprehension tests with vocabulary tests and secured the coefficient of correlation varying from .3 to .82. The only factor which had a higher correlation was intelligence. (56:13-33)

Never before has the child had such a need for an adequate vocabulary. The enrichment of the curriculum calls for an increase in the amount of reading and for an extension of the child's activities.

In an introduction to a pamphlet giving a ground plan for Catholic reading, Frank Sheed makes some very fine distinctions with regard to reading and education. He says:

The trouble about reading is that it is the name for two totally different activities. Reading — serious reading — the great means of contact with the world about us and our fathers before us, is an educational activity in the fullest sense. Education cannot proceed without it; a defective education can be rectified by it; what a man reads is a surer measure of his education than any number of degrees. But there is a game of the same name, played with similar implements — the pastime call-

ed reading. Its genesis is easy to trace. Men hate having anything to do. But men also hate having nothing to do. The human race therefore has always been fertile in the invention of things to do which are equivalent to nothing — things which will pass the time. Nothing happens in the mind — simply the time passes. The trouble is that anyone can read to pass the time, but one has to learn how to read in the proper sense. (110:142)

In learning to read there is a discipline which involves self-conquest. The whole of education is bound up in this question of reading. The good books contain the great thoughts of men. If the student has learned to read, he can use these thoughts to plan a successful life. Successful living means a right relation between man and all things in the world. The mind of the educated man will give him the knowledge of those relations. The object of the mind is to know what is — to know being. Being enters the mind through a fact, an event, or another's thought. Since no mental activity, but merely mechanical action, is required, this process cannot be called education. "Education is something that happens in the mind." (108:5) If the mind is really active it takes the information, thinks about it, extracts its meaning, and enriches itself. Even if part or all of the fact are forgotten, the mind has gained by receiving this food for thought. "A mind's feeding on being is education." (108:6)

The test of maturity in a mind is this: how much of what a man knows goes into his judgments. If he takes into



account the relation of the temporal to the eternal, his relationship to other members of the Mystical Body, then he may be said to have an educated mind.

The author of the present thesis has no intention of criticizing the foregoing authors on the ground that their discussions are inadequate. What they have to say is undoubtedly significant, undoubtedly helpful to the classroom teacher. But it is not equally helpful and significant to one whose task it is to develop a test of comprehension. It is entirely correct to say that words are symbols, that they contain meanings, and that some symbols are far more complex than others. The maker of a test of comprehension needs to know precisely how the most complex of symbols differs from the simplest, for until he knows this, he cannot develop a test containing items measuring ability to comprehend at each of these levels or in each of these different areas.

Present-day examinations, for the most part, test facts. The best of them tests not only memory of facts but attempt also to test the comprehension of these facts. The ideal test would do still more — it would test what has happened in the depth of the mind; but as yet no examination has been devised to do this.

Considerable impetus was given to the effort to measure comprehension by the work of those interested in the

physical and social sciences. In these fields there has been of recent years a growing conviction that facts learned by heart are quickly forgotten and that the chief outcomes to be sought are attitudes and the ability to think scientifically. Suggestions as to how to teach with these objectives in view and tests designed to measure the achievement of the recommended objectives are to be found in the works of numerous authors, among them Tests and Measurements in the Social Sciences by Kelley and Krey, (67) "Teaching Critical Thinking in the Social Sciences," (Thirteenth Yearbook of the National Council for the Social Studies), (120) Measurement of Understanding in Science in the Forty-Fifth Yearbook of the National Society for the Study of Education, (42) and Methods of Instruction in the Social Sciences by Ernest Horn. (57)

In the course of time it began to be realized that, whatever comprehension in its broader aspects might be, the first thing to be tested was an understanding of the meaning of words. Cronbach was almost a pioneer in the effort to analyze all that is involved in a true and complete comprehension of words. "Knowledge," he says, "may be taken to imply ability to understand the word in recall or recognition." (25:206) Words must be linked in the mind of the student with the experience to which the term refers. It

is important to know not only what words the students understand, but also to find out what words are a cause of difficulty to them. Various sorts of behavior that may be called for in understanding of words may be summarized in terms of these questions:

1. Can the pupil define the word? This is often taken for mastery. This step is called generalization.
2. Can he recognize that an illustration of the word as commonly employed is properly named by that word? Can he select in ordinary situations those to which the word is appropriate? Refer to this step as application.
3. Can he recall different meanings in different contexts? Can he distinguish which of these meanings is appropriate in a given context? This aspect we shall call breadth of meaning.
4. Can he apply the term correctly to all possible situations — even unfamiliar ones — where its standard meaning would apply, and recognize its unacceptability to situations where it does not apply? This aspect — precision of meaning — is perhaps the most crucial for diagnostic testing.
5. Does the student, having the ability to use the term, actually make use of the concept in his thinking and discourse? This aspect is called availability. (25: 207)

When test makers, not many years ago, began to attempt to measure comprehension in reading, their efforts consisted exclusively, or almost exclusively, in devising tests which would show whether or not a pupil recognized a statement as having been contained in what he read. The Burgess Silent Reading Test, for example, contained a number of short paragraphs followed by questions by answering which the pupil would show whether he knew that the paragraph had said a certain thing. It is evident that a very simple type of

comprehension is involved in this process. The child may recognize a statement as having been made without possessing any comprehension of its meaning.

Margaret Conant, to whom reference has already been made, reviewed all the existent literature on the subject when, a few years ago, she developed a test for measuring comprehension of social-studies material. It would seem that her principles are equally applicable elsewhere — certainly applicable in the field of religion. She reduces comprehension to five elements:

1. Comprehension of the main points.
2. Comprehension of the specific facts which support the main points.
3. Comprehension of the cause-and-effect relationships.
4. Comprehension of the meaning of words in context.
5. Ability to draw inferences from what is read. (21: 51-53)

To the work of Margaret Conant we will add The Forty-Fifth Yearbook of the National Society for the Study of Education, entitled The Measurement of Understanding. (42)

After admitting that an exact definition of understanding is not easily found or formulated, two of the authors of The Forty-fifth Yearbook, Brownell and Sims, proceed to build a chapter entitled "Nature of Understanding." (42:27) The following are the principles and some main points of the discussion:

"As a start, we may say that a pupil understands

when he is able to act, feel, or think intelligently with respect to a situation." (42:28) These situations are sets of circumstances of intellectual, social, emotional nature which call for an adjustment. To react intelligently to these situations we must have a knowledge of the relations involved. Very many of our ordinary reactions to the commonplace occurrences can be said to be intelligent because they are the result of logical reasoning. The situation gives the problem which is needed to stimulate the action. Previous experience is necessary if the pupil is to recognize the crucial aspect of the problem and plan a course of action intelligently. Under favorable conditions — that is, if nothing unforeseen happens to interfere with the plan — the student may work out his problems intelligently.

Rather than being all-or-none affairs, understandings vary in degree of definiteness and completeness." (42:31) Our understandings are more or less vague about less familiar subjects, while they are rich about those things that are close to us. All learning produces some understanding. The aim of education is to make sure that the pupil has the kind and degree of understanding that is necessary for his well-being.

"The completeness of understanding to be sought varies from situation to situation and varies in any learning

situation with a number of factors." There are few items that can be said to be understood completely. Rather than aim for many meanings, it is better to stress those which are most useful and those which cannot be learned outside of school. Emphasis on these may be limited by native intelligence and other factors.

"Typically, the pupil must develop worth-while understandings — of the world in which we live as well as of the symbols associated with this world." (42:34) The child needs not only the understanding of the things of the world, but also of the people, their relations to one another and to him. Words, numbers, rules are symbolic representations that are necessary in life. "Meaningful verbalizations facilitate the acquisition of understanding, aids in their retention, and thus makes them valuable for future use." (42:35)

"Most understandings should be verbalized, but verbalizations may be relatively devoid of meaning." To avoid verbalization that is devoid of meaning, this step should be introduced late in the learning process. Signs should be associated with their referents during the learning process.

"Understandings develop as the pupil engages in a variety of experiences rather than through doing the same

thing over and over again. Practice makes for improvement does not always hold good when the development of understanding is in question. Understandings need various experiences in which the child can analyze, synthesize, discriminate, compare, generalize — processes basic to the growth of understanding.

"Successful understanding comes in a large part as a result of the method employed by the teacher. (42:35) Experiences must not be limited to the nature of things, but when possible, the things themselves should be presented. "Habits of critical analysis, classification, of seeing relationships, of identifying those of cause-and effect in nature, of arriving at sound generalizations, . . . are susceptible to development under wise guidance." (42:39) The result of these processes should be formulated into definitions, into conclusions reached by the pupils themselves.

"The kind and degree of the pupil's understanding is inferred from observing what he says and does with respect to his needs." (42:41) When words can be used in places and in ways different from the context in which they were learned; when principles learned can be applied where useful; and when processes mastered can be employed effectively in new situations, we may imply that these words, principles, and processes are understood. An evidence of a higher

degree of understanding is given when pupils are able to use these in increasingly dissimilar and more complex situations. Tests should involve a series of situations graded in degree of dissimilarity from the original situation, and graded from simple to complex.

William Gray gives the following broad definition of reading: The broad view of comprehensive reading is that it involves the recognition of the important elements of meaning in their essential relations, includes accuracy and thoroughness in comprehending through recognition of word meaning and gives the major importance to thought getting. (49:267)

Reading involves both the recognition of the word and phrase meaning and the organization of the various elements of meaning into a chain of thought which is integrated. There is a great need in both the elementary and secondary schools for more accuracy and precision of thought.

The following is the definition of reading that Gray considers the best: It assumes not only recognition of essential facts or ideas presented. It also reflects their significance, evaluates them critically, distinguishing relationships between them and clarifying the understanding of the ideas apprehended. (49:26-27)

If a definition of reading fails to take in reflection, critical evaluation, and clarification of the mind,



it is based on inadequate psychology.

If matter is understood, reading will carry over into life. Therefore it is well to add application to the above definition. Reading has the power to modify personalities through their reactions stimulated by the matter read. From reading a person may be inclined to such reactions as fear, illness, ambition, happiness, critical thinking, and appreciation. Some of the undesirable emotions are caused because the matter is not thoroughly understood.

We must not look on the reading process as a special process, for it is the learning process. Therefore the training in reading must include training in all the steps involved in learning.

In reading there is much that psychology calls thinking. Efficient readers do think while reading. The interpretation of the facts read in the light of related concepts, of principles, and of our own experiences is thinking.

The building of concepts in the minds of pupils is very necessary. The difficulty in this is the problem of determining how well the pupils understand each term.

Reading depends on:

1. Inherent nature of the material, the difficulty with which the passage deals.

2. The adequacy with which the concepts are presented in the reading matter.

3. The reader's intelligence, experience, interest, command of reading habits. (49:269)

#### LABORATORY RESEARCH ON COMPREHENSION

If, now, we turn to laboratory research on the subject we find little more that is of practical help. Woodworth in his Experimental Psychology has given us in two chapters a thorough summary of research on comprehension and thinking. (133: 768-823)

Duncker (35) , Claparede (19:1-155), and Kubo (71:82-183) report on experiments on trial and error in human thinking. They concluded that this trial and error method was not a random and blind groping process. It was rather a step-by-step process from one plausible lead to another in an effort to arrive at the goal.

Wertheimer ( 129:778) and Kohler (70:350) insisted on the importance of insight. Duncker says insight is not an all-or-none affair, but that it is both gradual and graduated. (35) It is gradual because it usually proceeds by steps which are themselves insightful. It is graduated in the sense that insight does not give the same enlightenment in all cases. Insight in the lower degree occurs when a person

knows a rule that will work in a situation and uses it. In the higher degree the person knows why the rule will work.

Insight, most experimenters agree, is due to seeing the relationships between parts of a problem and some past experience. Perception of relation precedes associations; from these insights arise. No insight can safely be accepted as ultimate. (133:779).

The theory of imageless thought was introduced by Binet (6), and by Marbe (78), Kulpe (72:56-68), and Ach (1) of the University of Wurzburg. Later Watt (127:289-436), Messer (87:1-224), Buhler (13:1-122), and Woodworth (133:787) gave reports on their experiments on this subject.

Positive testimony as regards the mere existence of moments of active thought in which no images could be detected has been given by many psychologists. Among the number were: Cordes (24:30-77), Taylor (119:225-251), Woodworth (133:786), Wundt (135:301-360), Grunbaum (52:340-380), Moore (90:237), Koffka (69), Fox (43:425), Clark (20), and Spearman (114:181).

Buhler questioned the importance of images in the thinking process, and concluded that thought, not images, are essential phenomena in thinking. (13:1-122).

Woodworth regards what is imageless not thought as much as recall. He draws attention to the fact that there

is nothing mysterious about this theory. It is simply the recalling of the meaning of an incident without the experiencing of the sensations, images and motor reactions that were present in the original experience. (133:789)

Marbe (78), Mayer and Orth (80:1-13), and Cordes (24:30-77) in recording experiments on association and judgment, mentioned the existence of indescribable states which could not be classed as sensations, images, or feelings. Examples of such states are: hesitation, doubt, sureness, etc. Titchener (123:100) called them "conscious attitudes." Clark (20:786) in her experiments on this subject, found that kinaesthetic sensations or images could be detected in conscious attitudes. Book (7:385) says that "conscious attitudes" seem to represent a stage in a process of development which begins with a vivid imaginal thought, and slowly and gradually passes downward to a state of automatic or instinctive control.

Another result of the introspective study of thinking was the "mental-set" theory. The deductions made by the experimenters is that an adjustment for the standard stimulus is carried over to the moment when the variable stimulus is received, and the variable seems stronger or weaker according as it is stronger or weaker than the stimulus for which the adjustment was made. When the same task has been

repeated, the conscious awareness disappears and gives place to a feeling of readiness. The practice makes the mental set less conscious and more effective.

Woodworth reports the following conclusions drawn by experimenters: the task set is typically conscious and does not function automatically; it must be present as a conscious undercurrent if it is to be effective.\* (133:795)

Kuo (72:802) reports from his research that a common element of form or meaning is not always conspicuous when attention is directed to individual specimens.

Drever (34:197-203) drew two conclusions from his experiment of finding common characteristics in varied specimens: mere repetition does not make the characteristics stand out; some insight is needed. For the most part this insight gradually shaped the concept of the common characteristics. \*

Hull worked out an experiment in which Chinese characters were paired off with nonsense names. Each character used embodied one of twelve selected radicals. All characters containing the same radical were given the same name. Characters were identified by analyzing them to discover the characteristic mark of each class. Practice gave increasing ability in recognizing new members of a class. (58:801)

Smoke (113:42-119) asked subjects to discover common elements and define the class. He found that all were able

to find elements but most of the subjects could not give an adequate definition.

Ach (1), Huper (54:315-408), and Hanfmann and Kasanin (55:521-540) studied problems in classification of concepts. Experiments were reported by English (39:305-350), Stevanovic (117:806), and Chant (18:285) in which they found two main lines of attack in forming concepts of novel objects: assimilation of the new object to some familiar object — a global attack; and analysis of the new object into parts which are familiar. They concluded that the analytical process is more dependable for forming new concepts.

Deduction and the use of the syllogism has furnished material for many experiments. Storring (118:1-127) introduced syllogisms into the laboratory. These experiments were based on recognition of visual and verbal patterns and the calculus of relations.

Subjects working on these syllogisms followed two lines of attack. Some built up a complete pattern containing the three terms of a syllogism each in its own place. From this pattern a solution was drawn. This forming of a total pattern emphasized the teaching of the Gestalt group. Others using Spearman's education of relations reached a conclusion by noting the likeness or opposition among the terms.

Burt (15:237), and Wilkins (130) also used the

syllogism for experimental purposes. Burt regarded the syllogism as the best single indicator of intellectual ability in older children. Wilkins (130) presented identical syllogisms with letter terms and with word terms, in order to see whether the concrete or the abstract material would be handled more correctly. The syllogisms presented in letter terms proved to be more difficult.

Atmospheric effect is caused by one's becoming set to the total impression of the situation and answering accordingly. The exact relationship of the terms of a syllogism are set forth in the premises. To see this pattern clearly one must analyze the situation, notice relations, and build up a pattern. This pattern should, if clearly formulated, make the conclusion evident.

Woodworth and Sells (134:451-461) says the global impression or atmosphere created by the premises is an important factor in erroneous reasoning.

1. A negative premise creates a negative atmosphere, even when the other premise is affirmative.
2. "A particular ("some") premise creates a "some" atmosphere, even when the other premise is universal. (133:815)

Sells and Koob (109:514) provided a syllogism test to demonstrate the atmosphere effect. The responses showed that

the subjects drew inferences or judgments which were most similar to the general trend of the whole situation.

Atmosphere effect is not confined to syllogisms but may also be found at work in hasty reasoning.

Hemholtz (55:3-21) and Poincare' (98), who were interested in creative thought, gave some ideas which are still in the theory stage. One of these is that after intensive work there must be a period of rest or unconscious work before a new idea can be expected.

Graham Wallas (125:103) gives the four stages of creative thought as preparation, incubation, illumination, and verification. These overlap as we go through everyday problems. Incubation implies the theory of unconscious work and has some resemblance to the "plateau in the learning curve. It seems to be a term used to explain the effort to get rid of false leads and hindrances to clear thinking. In general we may say that all this research has to do with the concomitants of comprehension or with the type of effort made to arrive at comprehension rather than with its ingredients or levels.

The writer has attempted in the preceding pages to extract from the works of well-known educators and psychologists what they consider essential to good thinking. The following is a brief summary of the theories and research



findings that seem to be related to the problem attacked in the present thesis:

Understanding is evidenced by acting, feeling, or thinking intelligently in a situation, calling for adjustment. Comprehension varies from situation to situation in degrees of definiteness and completeness. The world and the symbols associated with the world must be made meaningful by partaking in a variety of experiences under skillful guidance. The kind and degree of understanding is inferred from observing what is said and done by the pupils with respect to their needs.

There are several points on which all agree as being necessary if comprehension in reading is to take place.

These are:

1. Experience, either real or artificial, is needed for association of ideas.
2. Training in the skills and careful guidance in their use are required on all levels.
3. Reading and thinking are active processes and require of the learner willingness to concentrate.

The following are the processes essential to meaningful reading:

1. Recognizing words in context and also sufficiently developed vocabulary to know commonly used words on

their different levels of comprehension, namely:

- (1) generalization
- (2) application
- (3) breadth of meaning
- (4) precision
- (5) availability

2. Recognizing the main thoughts and the specific thoughts that support them.

3. Seeing relationships, especially those of cause and effect and detecting other hidden relationships.

4. Drawing inferences from material presented in the reading matter.

5. Weighing the evidence by comparing concepts contained in the material read and those we have obtained from former experience or from others.

6. Evaluating and judging the validity of author's statements and conclusions — recognizing difference between a statement of fact and an opinion; recognizing tendencies to indoctrinate, to mislead, or to deceive the reader.

It is clear that reading is a complex affair, composed of not one ability but of many: some simple, others difficult, some that are learned almost unconsciously and others which can be acquired only through skillful training

and conscious effort. Reading that possesses the characteristics mentioned in this chapter is not a skill to be acquired in a short space of time. It is an art that needs gradual development if it is to be of service to an individual through his whole life.

## CHAPTER III

### COMPREHENSION IN READING OF RELIGIOUS SUBJECTS

On more than one occasion our Lord reproached His followers for lack of understanding. "How is it," He said to the Twelve, "that you do not yet understand?" (Mark 8:21). The same complaint is frequently voiced by the teachers of religion today. There is a universal agreement that children should comprehend, not merely memorize, the truths of their religion. But if we are to teach the children to comprehend, we must first of all know ourselves what comprehension involves. This is a question to which the writer of the present thesis cannot hope to give a complete and final answer. She can, however, summarize the contributions made by psychologists and those interested in the fields of teaching and of testing. If in the end there remain unanswered questions, it can only be said that we should expect nothing else, for we are dealing with the noblest faculty in man, his ability to perceive truth, to form concepts of the abstract and the universal, and to arrive even at new truths by processes involving long and complicated reasoning.

As an approach toward the solution of the problem we may refer to the doctoral dissertation of Margaret M. Conant entitled The Construction of a Diagnostic Reading Test, to

which brief reference has already been made in Chapter II. The task which Margaret Conant set herself was the construction of a test of comprehension of social-studies material. Her first responsibility, as is always the case in such studies, was to explore the literature already existing on the subject. Her bibliography of 169 titles is evidence of the thoroughness with which this part of her work was done. From the material gathered she constructed an "Original Blueprint for Construction of Diagnostic Reading Test" (21:50:53), which contains a summary of the things that need to be done if one is to comprehend what he reads.

Comprehension, as summarized in the Blueprint, embraces five distinct things, steps or processes. These, it should be noted, are not presented in the order in which, psychologically, they occur. We will discuss each of these five steps with reference to the comprehension of religious material.

The first step is comprehension of the main points. All teachers of religion can testify to many instances in which pupils fail to grasp the main thought of the truth presented. Mother Mary Agnes Garvey (47) made a study of the age or grade in which a child has ability to comprehend the Bible stories and fully grasp the lesson which each story is intended to teach. These stories were taken from the Bible and presented in the language of Scripture. Each story was

followed by six statements, three of which were correct and three incorrect. The stories chosen were such as to portray a particular character trait of our Lord; for example, His kindness, charity, patience, sympathy, etc. The object of the test was to find out just what each story conveyed to the pupils who ranged from grades four to eight. A zero score did not indicate zero comprehension. The child who scored zero did not see the significance of the story, but may have understood what was said and done. To test the apprehension of the main point was the aim of these tests. The following stories were presented:

<u>Number of Story</u>	<u>Title</u>
1	The Multiplication of the Loaves
2	The Good Thief
3	Zacheus
4	Our Lord's Relatives Seek Him
5	The Arrest of Jesus
6	The Cleansing of the Temple
7	The Miraculous Draught of Fishes
8	The Rich Young Man
9	The Meal at Bethania
10	Mary Magdalen
11	Our Savior in the Desert
12	The Finding in the Temple
13	Our Lord's Dealing with the Apostles
14	The Temple Tribute
15	Nicodemus
16	The Coin of the Tribute
17	The Ten Lepers
18	Jesus Before Pilate
19	The Widow's Son
20	Christ Denounces Hypocrisy
21	The Marriage at Cana
22	Christ Heals the Sick

<u>Number of Story</u>	<u>Title</u>
23	The Calling of Matthew
24	The Baptism of Jesus
25	The Agony in the Garden
26	Christ Blesses the Little Children
27	The Betrayal of Judas
28	The Samaritan Woman
29	Christ Feeds the Multitude
30	Christ's Discourse to the Disciples
31	The Widow's Mite
32	The Raising of Lazarus

The following facts were revealed by the data obtained from the test: Stories 1,3,4,5,6,13,18, and 22 were found to be the most difficult. Stories 9 and 10 were understood by all. Stories 7, 11,12,14,16,17,20,21,24,29,30, and 31 were difficult for grades four and five but not so for grades six, seven and eight. Stories 2,8,9,10,11,25,26,27, and 32 were most easily comprehended by both boys and girls alike. Story 9 scored the highest general average. Stories 21 and 23 received the lowest of all. Story 9 received the highest score among the girls. Story 10 received the highest score among the boys.

The second step in comprehension of the specific facts which support the main points. We need not only know what the fact is, but in some cases the why and how of the fact. "Depart from Me for, I was hungry and you gave Me not to eat." That men will lose their souls for lack of social service is the main thought. In refusing to aid the neighbor the person refused to aid Christ, for He has identified

Himself with man. Man's ignorance of this identification will not justify him on the last day for refusing to give to his neighbor the things that he really needs to live like a man. This giving to his neighbor what is necessary for his temporal life is commanded by the second part of the Great Commandment without any reference to this identification: "Thou shalt love the Lord thy God with thy whole heart, and with thy whole soul, and with thy whole strength, and with thy whole mind; and thy neighbor as thyself." (Luke 5:27).

The third step is comprehension of cause and effect relationships. Many examples of this type could be cited from religious reading. Two or three, however, will serve our purpose.

The Parable of the Unjust Steward offers a series of them. The cause in this parable is the steward's squandering of his master's goods. The effect is the steward's removal from office. Again these relations extend themselves into others. The removal from office becomes a cause which had its effect on others. The master lost some of the material due him from his creditors; these creditors were relieved of part of the debt they owed. The scheme of the steward to help his debtors gained for him a means of subsistence.

Christ, after telling the people of His day that they could forecast the weather from the aspects of the sky, bids



them turn this knowledge of cause and effect to their own spiritual benefit. He exhorts them to examine their lives and see where sin will lead them. "Unless you do penance you shall all likewise perish" (Luke 13:5). Penance will be the cause of their salvation. Sin is the cause of the loss of grace and this not merely by Divine decree, for sin and grace are incompatible.

The fourth step is comprehension of the meaning of words in context. This is of its nature the first step psychologically, for nothing else can be understood if words in context are not understood. But, as we have said, the Blueprint is not arranged psychologically. This knowledge of words in context is extremely important in the study of religion. The use of technical terms may conceal from the teacher the defects in the pupil's thinking. Right thinking is a habit which has its beginning in accurate formation of concepts. Concepts are in turn dependent for meaning on words. Marcum (79-410) says that attention to concept formation is of as much importance as attention to vocabulary.

Often children's conclusions are erroneous and ludicrous because of misconceptions of the meaning of certain words. For example: "Fear not, your Comforter will return," was interpreted by one child as meaning: "Don't worry, you will get your quilt back." It is not that reasoning is too difficult for them, but that the material on which the mind

is to work was not understood. Children, when skillfully trained, can and do get exact meanings of intricate doctrines in religion.

It is not enough to understand the individual concepts, when these admit of comprehension, but great care must be exercised in combining them to form new ideas. This merging process provides a fertile field for error for the young, who, lacking extensive experience, may make a mistake in the choice of concepts to be united. We turn, then, to Carl Spearman, an experimental psychologist who, though not a Catholic, read Thomas Aquinas in the original Latin and believes in an im-material faculty. He gives as a reason for the lack of understanding words in context the inability to see relationship of concept to concept within the material, for no concept can be fully comprehended in isolation. To understand "soft" you must know "hard." Spearman gives ten relations which the author will attempt to apply to religious material: (112:68-74)

1. Attribution. The first relationship mentioned includes the relation of a character to its fundament.

(1) The attributes of God furnish examples of this type: the mercy, goodness, omnipotence of God

(2) The immortality of the soul

- (3) The heinousness of sin
- (4) The goodness of virtue
- (5) The simplicity of the soul

2. Identity. This relation supplements the relation of attribution. It is the one in which the object persists identically the same despite all changes in its state of activity. This relation is known familiarly as the relation of genus to species. Examples:

- (1) Baptism and penance are the same in this respect, that they are sacraments.
- (2) The soul of man and the angels are the same in this, that they are immortal.

3. Time. This relation does not have much implication in religion. When we wish to state that one thing follows another only in time, not in effect, this is the relation used. Example: The Canon of the Mass follows the Offertory.

4. Space. This refers to geometric figures and lacks application to religion.

5. Cause. This type was treated as the third step of Margaret Conant's essentials to good reading. We shall not repeat the explanation here.

6. Objectivity. This is sometimes called the "psychological relation" because it is peculiarly and exclusively psychical. There is in this type of relation a

subject that knows, feels, or strives, on the one hand, and on the other an object that is known, is striven for, or evokes feeling. It probably characterizes more than half of the concepts ordinarily used. It enters into all that are of a cognitive nature, as intellect, thought, attention, inquiry, comparison, belief, truth. It also occurs in all conation, as will, impulse, behavior, pursuit, submission, authority, etc. Almost always it at least co-operates intimately with the affective processes, as temperament, passion, hope, fear, love, wonder, pride, resentment, pity, and the like. The process is one of educing correlatives and the relation involved is the psychological or objective kind.

This process is of extreme importance in religion for it is essential to the formation of attitudes which are the basis of Christian living. Since attitudes are of such importance, it seems well to define this term. Thurstone gives a definition which seems to include all the desired factors.

The concept of "attitude" denotes the sum total of a man's inclinations and feelings, prejudices or bias, preconceived notions, ideas, fears, threats, and convictions about any specific topic. (122:531)

The child meets with five basic relationships in his Christlife, namely, his relations with God, and with the Church; with his neighbor, with nature, and with himself.

"His living is a constant interweaving of relationships, and it is the interweaving that gives balance to his life and growth." (60:22)

The attitudes are the result of the fundamental understandings which evolve as the child gains knowledge through experience and the generalizations which he makes. These attitudes, aided by grace, should produce specific habits of virtue which are exercised in each of the relations mentioned above. The authors of Christian Social Living (61) have given a detailed list of children's practices in their relation to God, the Church, their neighbors, nature, and themselves in their lives at home, in school, and in the community. These are planned to guide the teacher in the cultivation of attitudes with the habit as a final goal.

Before habits can be formed the emotions and will must be brought under control. To facilitate this, appeal should be made to the imagination, for imagination is the creative power of the mind and by it we can create for ourselves the world in which our neighbor lives. With this knowledge we can learn to understand his aims, needs, hopes, etc., and knowing these we can regulate our conduct toward him. This knowledge does not all come consciously, for children are never learning only the subject taught; and even when no conscious effort is being made to teach them,

they are also learning. They are forming opinions both good and bad from the words and actions of those around them.

Attitudes need time for growth. They flourish under patient, quiet guidance. They are not formed only by what we understand but by what we believe and love. "Peter did not always know what he was believing; but he did know Whom he was believing." (101:848)

Both doctrine and the practice of religion must be taken from the dominion of the abstract and made to center around the attractive person of Christ. The appeal must grip the whole student; his mind, his will, and his emotions. More is required for this than mere learning. It demands self-sacrifice, perseverance, and an expenditure of energy. The attitude of serving a person will be a vital power, an urge, a driving force impelling them to lead a truly Christian life.

Habits of the three theological virtues of faith, hope and charity are given to man in baptism for the purpose of regulating his life with God. Habits of the cardinal virtues of prudence, justice, temperance, and fortitude regulate man's dealings with God and with his fellow men. The virtue of justice involves reverence. One cannot give a more emphatic statement about reverence than the following by Timothy Brosnahan:

Unless reverence be the result of education, reverence for God and the truths and commands of God; reverence for all forms of authority, paternal, civil, and ecclesiastical; reverence for the family; . . . reverence for the neighbor, the dignity of his personality and the inviolability of his rights; reverence for ourselves — unless, I say, reverence for all things worthy of reverence be so inculcated in childhood and youth as to become a habit of manhood, education is worse than a failure; it is an unparalleled misfortune. (10:882)

Other phases of justice which are equally important will necessarily flow from a heart impregnated with reverence. These are: obedience, truthfulness, friendliness, and liberality.

Fortitude, which embodies patience and perseverance, is a habit of extreme importance. Temperance, like prudence, justice, and fortitude, which has to do with many of the virtues, refers to moderation in all activities. Some aspects of it are purity, humility, and meekness. There are many other aspects of these virtues and many more attitudes that could be cited, but for our purpose the above seem sufficient.

There is a twofold obligation that rests on those who train the young. First, the parent or teacher must see that their words and actions portray to the child the living example of the habits they wish to form. Secondly, they must provide opportunities for the child to practice these virtues. Knowledge does not necessarily mean virtue. Dewey recognized this fact when he said:

There is nothing in the nature of ideas about morality or information about honesty, or purity, or kindness

which automatically transmutes such ideas into good character or good conduct. (30:1)

Educators must use every means to see that these ideas become driving forces to good conduct. Not only must proper attitudes be cultivated, but they must be kept within bounds; care, too, must be taken not to arouse undesirable attitudes. Fear has its place; but if it is overstressed, some sensitive souls may be permanently damaged. The Reverend Austin G. Schmidt, S.J., says the following in this regard:

" . . . it is simpler and easier to speak of the fires of hell than to describe the inaccessible light of heaven, far simpler and easier to appeal to fear than it is to appeal to love." (103:53)

It is refreshing to remember that the souls we strive to train are endowed with infused virtues in baptism and thereby are prepared for our teaching. The ground is ready; the duty of the teacher is to preserve and increase the virtues that are there. The desire to know and love the Heavenly Father is natural to a baptized child.

Every young child can understand that he has certain rights and duties. These concepts must be deepened as the years pass. He must, however, realize the power of his own resources and capabilities in order to use them.

To continue the relations listed by Spearman:



7. Constitution. The constitutive relation is that which fundamentals and relation bear to the whole which they jointly constitute. They bear the relation of parts to the whole. These parts must always be present when the whole is present if the relation is to be constitutive.

Examples:

- (1) I am a member of the Mystical Body. He is a member of the Mystical Body. Therefore there is a relation between us.
- (2) Baptism gives sanctifying grace. Penance gives sanctifying grace. There is a relationship between them of constituting the sacraments of the dead.
- (3) Mortal sin is an offense against God. Venial sin is an offense against God. Therefore they are related in that they constitute the whole class of actual sin.

8. Likeness. Likeness takes us into the class of "ideal" relations. Besides including the relation understood by the title, it includes also all opposites. This type of relation is the most universally used. The wide use made of likeness and difference in intelligence tests shows its importance in thinking. It constitutes the major part in the three basic principles

of all thinking. It involves the following:

- (1) A search for differences between things that look alike; e.g., what is the difference between sin and crime, between pleasure and happiness, between piety and fervor?
- (2) A search for similarities between things that look different; e.g., what is the difference between laziness and cowardice?
- (3) A search for a thing or an idea which we need in order to supplement, to remedy, or to explain an incomplete or unsatisfactory situation. For example, we use this type when looking for a cause of juvenile delinquency.

Many accidental qualities of objects such as size, color, texture, location, etc., are readily detected even by shallow thinking. Deep thinking is required for detecting differences and similarities that arise from the inner value of things, such as purpose, essence, origin, material value etc.

Our Lord frequently made use of this type in His teaching.

"Again, the kingdom of heaven is like a net cast into the sea and gathering fishes of every kind" (Matt. 13:47).

"The kingdom of heaven is like a treasure hidden in

a field . . ." (Matt. 13:44).

"The kingdom of heaven is like leaven, which a woman took and buried in three measures of flour until all of it was leavened" (Matt. 13:33).

9. Evidence. In this relation one thing proves another — as boasting proves pride, miracles proved Christ's Divinity, denial proved Peter's weakness.

10. Conjunction. This type is not applicable to our subject, for it applies only to mathematics.

The fourth step of the Blueprint is selection and organization of facts relevant to a more general idea or question. The purpose of this step in the reading is to give the pupil an opportunity to do some critical thinking. To select from the reading specific facts and organize the answer requires more understanding than to recognize the correct answer when this answer is presented with incorrect ones. After reading the account of the cleansing of the temple, the following questions might be asked:

1. What sentence in this selection gives the reason for the action of Jesus?
2. Why did He not treat all the sellers alike?
3. What did Christ mean by the words, "Destroy this temple and in three days I will raise it up"?
4. What did Christ call the temple?

5. When were the words that Jesus spoke at this time really understood and appreciated?

Fifth step — the ability to draw inferences from what is read. Often this step has no place in religion, for necessary inferences have been made known to us by God and the Church. Therefore they are true. But often our own inferences have a place: Have the missions helped the natives? Does the fact that my soul is spiritual prove that it is immortal? Does the fact that I must not damage the property of others have any relation to Halloween? Does it remain true that the Church is less holy despite the fact that there are bad Catholics?

In the foregoing paragraphs the writer has attempted to apply to religion the various relations which are the basis of all thinking. It is because these relationships are not sought in reading material that understanding is so often lacking. Judd says in this regard: "Pupils pronounce empty words because the reaction stopped with the pronunciation." (63:163)

There are factors other than those mentioned which we have to consider when religious material is the subject under discussion. Perception, assimilation, and application, the ordinary steps to understanding, must be modified when used in religious subjects. Certain revealed truths are not capable of being fully grasped by the intellect, for they need

more than mere natural knowledge; they need supernatural conviction, or faith. Thinking of the truths of faith is merely the path to faith, not the act of faith itself. We can know, however, the meaning of the terms, and how these terms are to be combined to make a definition logical. We cannot always understand the concepts; hence we cannot always form a judgment about them.

The purpose of understanding in Christian doctrine is to elicit acceptance of the doctrine, not from personal insight, but on the authority of God, and on the testimony of the Church. We cannot instill lively faith by explanation.

There is no place for private interpretation when there is a question of dogma. We must impress pupils with the truth that the Church's dogmatic and moral doctrines rest on the soundest logical foundations. Once the pupil is convinced that the Catholic Church is the Church of Jesus Christ, he can rest assured that he is perfectly reasonable in embracing all her teachings.

This is not done by filling the mind with facts, for the object of education is the preparing of the mind to receive the truths of faith rather than the filling of it with knowledge. (74:36) Mental habits and moral ideals must be established by stimulation of the thought processes. The habits fostering Christian practice must be linked to

doctrine. "It is a great mistake to think that knowledge of facts leads to appreciation," says Father Austin Schmidt, S.J., "Saul knew the facts, but he knew them to hate them." (104:225)

Essentials should be thoroughly learned, for the memory retains only what is impressed on it. However, memorization should be done in a way that allows the pupils to see the relationship of dogmas to one another. Simplicity of words must be given preference over correctness of doctrine. Doctrine is the infallible word of God. The virtue of faith implanted in the soul will recognize the divine truth and willingly accept it.

The more accurately words are learned, the better, if only the teacher makes sure that what they signify is also understood. If the bare fact is set before the child to be memorized, it may mean very little and be appreciated less. When the living truth is seen in all its beauty or glory, the child is attracted, and his interest is captured. This at times, the Reverend Raphael McCarthy, S.J. states is more important than deep knowledge, for if he is interested he will find ways of deepening his faith and understanding as he grows older. (82:189)

Each new fact must enlighten items previously learned and it in turn must receive new meaning from the truths already known. Apperception and association are always an

important part of the learning process. The educator's work is to guide the child to learn to think. To really learn, the child must be active mentally and, at times, physically. Religion is not functional until it has been assimilated, and a test of this assimilation is spontaneous expression by the pupil. (96:5)

Religion is a program of life, a living thing, and not merely an intellectual exercise. It should be operative in the lives of the students when and as they learn it, for the exercise of religion should be given through experience on the pupil's own level of maturation. "It is one thing to have a right idea of the good, it is another to relate it vitally to all the mental, moral and physical activities of school life." (74:36)

We are not training them to be good men and women, but to be good boys and girls. Pope Pius XI in his Encyclical on Education appeals to educators to foster the gradual growth of the supernatural life of the child when he urges us "to co-operate with Divine grace in forming Christ in those regenerated in Baptism. (97:36)

## CHAPTER IV

### TESTING FOR COMPREHENSION

It must be immediately evident that any research worker who attempted in a single study to measure all the types of comprehension mentioned in the preceding chapter would be rash to an extreme. In attempting to measure so much he would undoubtedly fail to measure anything precisely.

The purpose of this chapter is to review the existing religion tests that are known to the writer. Some of the tests reviewed evaluate comprehension of non-Catholic doctrine: Doctrine, however, is not our concern in this chapter, but the form of the test and the type of comprehension tested.

Since there is a reciprocal relation between teaching and testing, understandings must be taught before they can be adequately evaluated. According to Cardinal Newman:

True education means a firm grasp of principles by which we can generalize, reduce to method, group and shape our acquisitions. Otherwise our learning will master us, when we ought to master our learning. Our knowledge will be a wilderness of facts and impressions in which we wander aimlessly and helplessly, without compass or star. (92: 143)

As we have said above, teaching for understanding is particularly necessary in religion, for in this subject the pupil is dealing with profound truths, an involved vocabulary, and obscure doctrines. Often factual information is selected



from this difficult subject matter and memorized as a substitute for understanding. The pupil becomes accustomed to learning material he does not understand. He does not, at times, even realize that what he is learning is something he should understand.

Those responsible for testing have encouraged this lack of understanding by the testing of memory facts. If understandings are not going to be tested, they are not very likely to be learned. Learning with understanding may have the effect of making pupils expect to understand what they are studying. In the Forty-fifth Yearbook of the National Society for the Study of Education Douglass and Spitzer speak as follows:

Tests made by teachers, other forms of evaluation, standardized tests, are alike in giving little attention to understandings. This evil condition needs to be corrected, for the effect on teaching, on learning, and on research are unfortunate. . . . Children soon learn the wisdom of learning what they will be tested on. For this reason the kind of evaluation affects children's learning procedures and determines their actual learning objectives, regardless of the objectives that may have been set in theory. (33:23)

The effect of the measurement program may be either beneficial or detrimental to the instructional procedure. It is beneficial when it induces teachers to aim in their instructions at outcomes that proceed from understanding. It is detrimental when measurement concentrates on factual knowledge

and neglects to test for understandings. It may even discourage the developing of meaning and the finding of relationships by issuing tests which measure only factual knowledge.

As we indicated above, understanding of words in context has direct bearing on the type of comprehension with which we are concerned in this paper. The degree of understanding of the meaning of words that should be expected of children has been a matter of controversy. Some consider the analysis of pupils' total vocabulary more important and desirable than the testing of word knowledge for breadth and precision.

Cronbach gives five levels of word meanings which are mentioned in Chapter II of this thesis. They are generalization, application, breadth of meaning, precision, and availability. He believes that each level would require a different type of test.

Generalization, the simplest type, may be tested by asking pupils to write or recognize definitions of the terms. The weakness of this is that the pupils may have memorized the definition without understanding its meaning.

Much testing has been done on the application level. The forms most frequently used have been multiple choice, free recall, and an essay form calling for illustration.

Tests to measure breadth of meaning have been developed by Woody (132), Lovell (76), and Tyler. (124) The forms used

by these workers were recall, matching, completion, and multiple choice.

Precision has been measured little in the past. Several attempts have been made in which the student is asked to select the perfect definition from among several that are nearly correct. This procedure has the disadvantage of giving all or no credit. It does not tell how thorough or how incomplete is the student's concept of the word. To overcome these disadvantages, a device could be used on which a student could obtain credit on varying levels from complete ignorance to complete understanding.

Dolch (31:23) says testing "richness of meaning" is impracticable. He has confined his tests to words having single meanings.

Seashore, also interested in survey tests, comments:

Among professional linguists it might be worth while to insist upon very fine discrimination in alternative meanings, but in our purpose in a general test it is sufficient to discriminate the commonest meaning from those which are definitely incorrect, but which might be sources of confusion to non-specialists in the field.  
(107:21)

Lovell (76:71) says that his experiments give a similar conclusion; that is, richness of vocabulary is fairly closely related to knowledge of single commonest meanings. He does, however, ask in his test for meanings other than the commonest one.

Eskridge (40:65) provides clear evidence that concepts may be known precisely, hazily, or not at all. He distinguishes between basic and associated meanings and shows that the latter disappear as the word is learned more thoroughly. His tests also measure different meanings or different degrees of meaning. He says the three different methods of testing really test three different ways of knowing each word.

In commenting on the different methods of testing word meaning, Dolch (32:23), Seashore (107:21), Eckerson (38:90), and Sims (112:96) notes these common faults: tests allow room for guessing and elimination; they stress verbalization instead of understanding; they allow full credit for hazy knowledge.

Multiple choice seemed to be the form that most affected the students' choice. Kelley (65:82) found in comparing scores on matching and multiple choice tests on identical material that students rated 20 per cent higher on the matching test because of elimination than they did on the multiple-choice test.

Cronbach (25:215) says that more valid instruments than are now available are required if we are to test the various levels of word meanings.

There are at present many studies on the vocabulary of religion. Several of these will be mentioned below.

Reverend David C. Fullmer has designed two comparable

forms of a comprehension vocabulary test. (45:85-104) Each form consists of fifty words. The pupil is asked to select the correct meaning of the word from among several choices. The errors on each item in each grade level have been tabulated. These, together with words taken from religion books in common use in the United States today, form a vocabulary the possession of which is considered by the author to be essential to understanding Catholic doctrine. Father Fullmer has the following to say in regard to the teaching of the religion vocabulary:

The vocabulary of religion must be taught systematically and thoroughly in the primary grades and thereafter. Clarification and a deeper understanding of the meaning of these terms must be the constant concern of the teacher of religion. Usually the necessary provision is made for the teaching of the vocabulary of the secular branches. It must not be neglected in the most important subject of the curriculum. (45:67)

Sister Mary Theodore Weppner (128) has developed a standardized vocabulary test consisting of two comparable forms. These are to be used in the measurement of various age levels in the elementary school from grades three to eight.

Aside from tests found in religion text books and workbooks, tests in Catholic religious doctrine are very scarce. Only one is a standardized test, The Religion Essentials Test by Reverend Austin G. Schmidt, S.J., of Loyola University. This test was designed to measure the extent of a pupil's knowledge of vital information of those fundamentals in

dogmatic and moral theology which are so important that they should not under any circumstances be neglected. In a paper entitled "Standardized Tests in Religion," Father Schmidt says:

There are ten commonly accepted outcomes of instruction that we ought to measure if we can. These are: reflective thinking in its various aspects; interests, aims and purposes; attitudes; social adjustment; creativeness; study habits and work habits; fund of vital information; appreciation; social sensitivity; and functional philosophy of life.

Upon examination, all ten of these outcomes will be found to apply to religious instruction. The easiest of all to test is the seventh — fund of vital information. (101:810)

The test has eight comparable forms. It is divided into six parts, each using a different form: two true-false parts, one matching test, one completion test, and two different types of the multiple choice form. There are 117 items in each of the eight forms. In the booklet containing the directions for administering the test, the author describes the preparation of the test, its validity and reliability. The results of this test can be used for a number of worthwhile purposes:

1. For determining the standing of pupils and schools.
2. For determining growth.
3. For purposes of diagnosis.
4. For enriching the curriculum.

Test in Religious Instruction for High School Students  
in two equal forms was prepared by Reverend Alfred Schnepf (105)

S.M. . Each form contains one hundred items divided into three parts. Part one has fifty true-false statements. Part Two consists of a twenty item multiple choice test. Part Three is a matching test containing thirty items.

The writer examined some interesting tests on non-Catholic doctrine designed and published by Northwestern University. Series A has three tests which are factual information tests on The Life and Teachings of Jesus, Old Testament Times and Teachings, the Acts and Epistles. Series B contains comprehension tests on the subjects mentioned above. Each form contains twenty items.

Series A, Test I, contains fifty facts about Christ's life and teachings. Each statement has four answers, only one of which is correct. The following examples are quoted directly from the test:

The night before Jesus chose His twelve disciples, He:

\_\_\_\_\_ talked the matter over with His friends

\_\_\_\_\_ asked them whether they would be willing to leave all and follow Him

\_\_\_\_\_ went into the mountain and spent the night in prayer

\_\_\_\_\_ said unto them: "Watch and pray that ye enter not into temptation"

The subject matter of Test 2 is the Old Testament. It is similar in form to Test I. Example:

On the night of Balshazzer's feast Daniel told the king that the meaning of the writing on the wall was:

\_\_\_\_\_ this night thy soul shall be required of thee

\_\_\_\_\_ there will be seven lean years followed by seven years of plenty

\_\_\_\_\_ thou art weighed in the balance and found wanting

\_\_\_\_\_ thy kingdom shall last from generation to generation

The contents of Test 3 are based on the Acts and the Epistles. The forty items in this test follow the form used in the preceding tests. Example:

When the lame beggar at the gate of the temple asked for alms, Peter said to him:

\_\_\_\_\_ "Lay up for yourself treasure in heaven"

\_\_\_\_\_ "In the name of Jesus Christ of Nazareth, walk"

\_\_\_\_\_ "Ye cannot serve God and Mammon"

\_\_\_\_\_ "Your sins are forgiven you, go and sin no more"

Test 4, Series B, the first of the Comprehension Tests, requires the student to select the answer that best explains the statement in question. These statements are based on facts taken from the life and teachings of Christ. Example:

Then he poured water into the basin, and began to wash the disciples' feet, and to wipe them with the towel . . . When he had washed their feet, and taken his garments, and sat down again, he said unto them, Know ye what I have done to you? For I



have given you an example, that ye also should do as I have done to you. (John 13:5,12,15)  
This means:

\_\_\_\_\_ That Jesus wanted to establish the custom of foot washing among his disciples.

\_\_\_\_\_ If we would be like Christ we must be willing to perform lowly service.

\_\_\_\_\_ The followers of Jesus should seek out only the lowly or humble tasks.

\_\_\_\_\_ Jesus is most pleased when the tasks we perform are lowly.

In Test 5 comprehension of Old Testament facts is tested.

Whither shall I go from thy Spirit? Or whither shall I flee from thy presence? If I ascend up into heaven, thou art there: If I make my bed in Sheol, behold, thou art there. If I take the wings of the morning, and dwell in the uttermost parts of the sea; even there shall thy hand lead me, and thy right hand shall hold me. (Psalms 139:7-10) This means:

\_\_\_\_\_ Men constantly search after God.

\_\_\_\_\_ No matter where we go we cannot get away from the presence and guidance of God.

\_\_\_\_\_ God leads us by the hand so that we shall do right.

\_\_\_\_\_ We feel God's presence everywhere.

The following examples are from Test 6 on the Acts and the Epistles:

Know ye not that ye are a temple of God, and that the spirit of God dwelleth in you? (I Cor. 3:16)  
This means:

\_\_\_\_\_ Men should be considered holier than

temples.

\_\_\_\_\_ God is to be found in each of us.

\_\_\_\_\_ God must have temples in which to dwell.

\_\_\_\_\_ The Spirit of God dwells in sacred places.

My Ideas About Religion is another test of the preceding group. The form used here is a question to be answered by "yes," "no," or "not certain". The test has seventy-five items. Examples:

Is God as near us anywhere else as in Church?

Is God still "speaking" to us today as he did in Bible times?

Is God a person with a form like a man?

Series B of an earlier date is a test in religious beliefs. The fifty-six questions in this test center around the attributes of God, the humanity and divinity of Christ, the Church, the existence of the devil and hell, the importance of the Bible, and the life after death.

The student is asked in the test to place a check in one of five columns according to the degree of belief or disbelief of the statement in question. The directions for answering read as follows:

- a. For positive certainty of belief check in column five.
- b. For moderate certainty of belief check in column four.
- c. For uncertainty, absence of conviction, check

in column three.

- d. For moderate certainty of disbelief check in column two.
- e. For positive certainty of disbelief check in column one.

Examples:

Do you believe that God exists?

Do you believe that God is three distinct persons in one, Father, Son and Holy Spirit?

Do you believe that the relation of God to man is best expressed in the word "Father" as used by Jesus, rather than in the word King or Judge?

Do you believe that God is unchangeable, not being subject to growth or development?

A Test of Religious Thinking published by the Associated Press, New York, has for its purpose to discover opinions, judgments and attitudes regarding God, Jesus, prayer, the Church and Kingdom, other religions, and life purposes; to measure agreement with a liberal point of view.

The test has two forms: Elementary and Advanced. In the elementary test, which is divided into six parts, there are sixty items.

Part I. Ideas of God and Religious Education .

A (ten items)

Do you think God made the whole world, all the stars, animals, and people? Yes No

Do you think God's power in the world works to

make things better and happier?      Yes      No

Part I. B (five items)

B A mother sat up all night to take care of her little boy who had a bad fever. Do you think God is like that?      Yes      No

A king loves to have everybody worship him, bow before him and praise him. Do you think God is like that?      Yes      No

C Below are some ways in which people try to learn about God.

By dreams      Much      little      Some

By studying science      Much      Little      Some

By thunder, lightning and earthquakes      Much  
Little      Some

Part II.      Ideas of Jesus

Does Jesus mean just the same as God?      Yes      No

Could Jesus do any kind of wonderful miracle which you could imagine?      Yes      No

Part III.      Ideas of Prayer      (seven items)

One child closed his eyes, bowed his head and was very quiet.      Good      Fair      Poor

One child said, "Father, I know I was cross today when mother asked me to stay home with the baby. I'll try to say 'yes' right away next time."      Good      Fair      Poor

Part IV.      Ideas of the Church and Kingdom

A      (six items)

Below are some ideas which some people have about what a church is.

To think of a church as a big and beautiful

building, is                      Excellent   Fair   Poor

To think of a church as a group of people who want to live in a Christian way, is  
Excellent   Fair   Poor

B            (four items)

Sometimes we say the main business of the church is to help bringing the kingdom of God on earth. What does this mean?

Does it mean a great empire of all nations over which Jesus will rule as king?   Yes   No

Does it mean a world in which no little children will go to bed hungry because a few people control all the money?

Part V.   Ideas of Other Religions   (seven items)

Can a person who does not believe in God lead a good life?                      Yes   No

Is any religion which may exist in a country as good for those people as any other would be?                                      Yes   No

Part VI.   Ideas of Life Purpose   (five items)

A            As God looks at the life of a boy or girl, what do you suppose matters most to Him? Write in the blank the number of the suggestion below which gives the best answer.   (       )

1. How hard the person tries to live a good life.
2. How much happiness or sorrow the person brings to himself or others.

B            Which of the following would you most like to be if you could have your life turn out any way you now choose. Write the number of your choice at the end of the line.   (       )

1. One who is famous, like a movie star.
2. One who has a happy home with children.

The advanced form of the Test of Religious Thinking

has one hundred items divided into nine parts. The parts bear the same titles and are cast in a similar form to that of the elementary test. In the original test each section is prefaced by detailed directions for the testee. In the samples quoted these directions have been condensed, or, where possible, omitted.

The tests reviewed in this chapter are not all comprehension tests. The one set of tests which is styled a comprehension test uses the best-answer form throughout. There does not seem to be any definite pattern used in the statements from which the pupil is to choose the best answer. In some there is one incorrect statement and in others there are more than one. The type of comprehension tested seems to the writer to be the recognition of the main or essential idea about each thought. These statements are well chosen and the selecting of a wrong answer will probably be as revealing to the examiner as the choice of the right answer would be.

All agree that comprehension tests are difficult to construct. The objective test, so commonly used, has lent itself only too well to the testing of facts. We must not think, however, that because they have been so extensively used for this purpose that they cannot be employed to test understanding. The best comprehension test, however, will be of no avail if instructors fail in their teaching to

develop the essential steps to understanding. If these outcomes of learning were sought, the need for more adequate means of measuring these outcomes would be felt. The supply of such tests would most probably be in proportion to the demand for them.

## CHAPTER V

### BLUEPRINT FOR CONSTRUCTING A TEST OF COMPREHENSION

In speaking of education Monsignor George Johnson says that it is the exercise of our own powers to acquire a fuller measure of the truth, a deeper love of the good, and a finer appreciation of the beautiful. Since we cannot love nor appreciate what we do not know, knowledge evidently is a very important factor in life. It is with this factor that we are concerned in this chapter.

Religion courses and religion texts in use today contain all that is necessary for man to know to lead a good Christian life. There is at the present time, however, a dearth of means to measure how much and how well material presented is absorbed by the pupils.

The task of compiling a comprehension test in religion will form the subject matter for future research. The purpose of this chapter is to present a blueprint which will indicate what must be done if we wish to test for complete comprehension in religion.

### TESTING FOR COMPREHENSION OF CONCEPTS

Several of the authorities quoted in the foregoing chapters insist upon the necessity of comprehending concepts.



A concept which is the simplest act of the intellect, is simply the knowledge of the nature of an object. Concepts or ideas are divided into various groups according to the various standpoints from which we consider them. Since concepts are frequently formed by the use of words, it is very necessary that words be clearly understood.

QUESTION: What must be known if one is fully to comprehend a concept?

ANSWER: Complete comprehension of a concept involves comprehension of:

- a. the genus
- b. the species
- c. the properties
- d. the accidents

a. The genus. — The highest genus of a subject is the idea of it that is most comprehensive. By adding an attribute that distinguishes it from others in the class we obtain a subaltern genus.

Take the concept of man.

Man is a substance. This is the highest genus for man.

Corporeal substance may be organic or inorganic.

(An example of genus and species — natural and supernatural gifts)

GIFT OF GOD

NATURAL

(Life, health, food, a  
good mind, etc., etc.)

Can be subdivided  
into various  
species:

Common to all men  
in mind  
in body  
in environment  
specially meant for  
an individual

etc., etc.

SUPERNATURAL

Intrinsically supernatural

Sanctifying Grace	Actual Grace	Infused Virtues and Gifts
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Extrinsically supernatural

(A providential act  
of God, such as an  
illness, a sermon  
heard, used by Him  
as a means of pre-  
paring the recipient  
for a supernatural  
gift)

"Sentient organic substance" is what we mean by animal. With reference to man, animal is the subaltern genus.

We must not be satisfied with testing for knowledge of the closest subaltern genus, but go up as high or go down as low in the scale as good judgment may show to be necessary. For example, superstition is the sin of attributing to creatures powers which they do not possess. Here we wish the learner to know what he means by power.

Power, like gift of God (see the preceding page), can be divided and sub-divided. The highest genus could be quality — every power is a quality possessed by some being. While it is true that an utterly complete comprehension of power would involve knowing that powers are qualities, not substances, we ought not to enter into that question, because of the following principle:

Principle. Stop going up in the scale when you get out of the field of religion and into some other field; for example, metaphysics — unless the metaphysical concept is essential to a comprehension of the religious concept.

b. The Species. — A species is a group possessing common characteristics that distinguish them from all other groups. The distinguishing characteristic or characteristics are the specific difference.

Man is an animal which is rational. All rational animals are men. Men may be white, yellow, black, etc., but these differences are considered accidental, not specific.

One who tests for comprehension need not always know — or attempt to determine — whether a difference is specific or accidental, or whether what is involved is a property. It is sufficient to know that the difference exists and that it should be understood.

#### APPLICATION TO OUR PROBLEM

A sacrament is a visible sign of an interior grace instituted by Christ. This is the genus.

Baptism is a sacrament that gives our souls the new life of sanctifying grace by which we become children of God and heirs of heaven.

c. The Properties. — Properties are all those things which the subject being defined must or invariably does have, but which do not enter into the definition. For example, man has the gift of speech.

Under properties we may include the following:

1. Powers or qualities which the thing has just because it is what it is. For example, because man is rational, he is also immortal.

Under qualities we include things such as these, that the thing ~~is~~ is good or bad, essential for us or not essential, ~~to~~ to be sought at any cost or to be disregarded if we ~~wish~~ wish, etc.

Sometimes ~~such~~ such qualities can be arrived at by a process of reasoning; sometimes we accept them as revealed.

It is a fact, for example, that the Eucharist is an incredible act of love. This is a quality possessed by the Eucharist. To know that fact is part of a complete comprehension of what the Eucharist is.

The fact ~~that~~ that the Eucharist is an incredible act of love can be deduced by a simple process of reasoning from the definition of the Eucharist.

Testing ~~for~~ comprehension of this fact would be simple. Does the learner know that the Eucharist is an act of love, does he know where it ranks among acts of love?

The teacher of religion wishes the learner to feel and appreciate this fact or truth. It is not so easy to measure feeling, attitude, appreciation — yet these are more important than mere comprehension.

Nonetheless comprehension is important, and comprehension is the thing we are concerned with in this thesis. The fact that other things are more important should not confuse the issue.

2. The way or manner in which a thing is produced may be included under properties. For example, the theological virtue of faith is that virtue by which we firmly believe on God's authority whatever He has revealed.

This is the definition — a definition giving us the genus and species. But we do not fully comprehend the virtue of faith unless we know that (1) It can be produced only by God, (2) It is a pure gift — something that can never be merited.

The use of the following interrogatives may be of some value: who, what, where, with what helps or means, why, how, when. Omitting the "what" which applies more to genus and species, these questions, if we are thinking of sin, for example, would be: Who offends? A mere creature. Who is offended? The infinite God. Where? Only on earth — there is no sin in heaven or purgatory. With what helps? With the very powers that God gave us for a good purpose — while He

supports us in existence.

Why? To satisfy some base desire.

How? — Does not differ here from the three e preceding, but might differ in other cases.

When? While God is loving us and seeking † to help us.

Knowing how a thing is produced together with knowing what it is in itself very often gives us all that we need to know about some concepts. The way in which it is accomplished may be of more importance to understand, perhaps more difficult to understand.

To illustrate: The Redemption consisted in restoring what Adam lost by making adequate satisfaction for the offense. But how was this done? Only by God's taking human nature. Or, again: Merit is a title to heaven, an increase of sanctifying grace, or an increase of glory in heaven. But how can one merit? Only by an act not sinful, by a free act, by an act offered in some way to God, by an act performed in the state of grace, and by an act performed on earth.

3. The effects which a thing produces may be included under properties. It is not uncommon, however, for the effects to give us the species. For example, most of the sacraments are defined by giving their effects: e.g. baptism is the sacrament that does so and so.

Here we may note in passing, certain suggested ways of testing for such comprehension:

- a. Below are five things, four of which belong in a certain class and one of which does not belong in that class. Write in the parenthesis the number of the thing that should not be classified with the other four.

1. baptism                      2. penance                      3. holy water  
4. matrimony                    5. holy orders                      (     )

- b. In the preceding test the learner was required to see differences between things that look alike. He may also be required to see similarities between things that look different.

Slander and robbery are similar because —

1. they are both always mortal sins.
2. they are both against the Seventh Commandment.
3. they both require the offender to make reparation.
4. . . . .
5. . . . .

- c. The testee may be required to supply a missing idea. The following definition needs to be supplemented by one of the words suggested after it. Write the number of



this word in the parenthesis.

A meritorious act must not be sinful, free, offered to God, performed on earth and

- 1. performed by one free from attachment to venial sin.
- 2. performed while awake.
- 3. performed in the state of grace.
- 4. . . . . (\_\_\_\_\_)

d. Analogies may be used.

Grace is to the soul as (clothes, hair, shoes, food, life, soul) is to the body.

The purpose here of the preceding types is to see what must be tested, not how to test it.

We shall now turn back to the foregoing chapters of this thesis in order to determine to what extent the things which authorities say enter into comprehension have been provided for in the preceding partial blueprint. Things not provided for shall be mentioned later.

- 1. They say that we must know, not only what the rule is, but why it works. For example, it is a rule that an act, to be meritorious, must in some way be offered to God.

Why? See page 81, 2.

2. They say that one should know how certainly a thing is true, that he should be aware of hesitation, doubt, sureness, etc., in his attitude toward the fact. This is included. See page 79, 1.
3. They say that one should perceive the common characteristic in various specimens. These characteristics, of course, are the genus, the specific difference, the properties, the accidents. This has therefore been provided for.
4. They say that we must be able to define the word. Genus and species take care of this.
5. They say that we must be able to recognize the fact that an illustration of the word is properly named by the word.

This has been provided for, but we must keep this idea in mind when framing tests. For example, we have taught what superstition is. We then test by suggesting various things, some of which are superstition and some of which are not.

6. They say that we must recall different meanings in

different contexts. For example, "grace" has several meanings. So, likewise, has "bad".

The problem of the teacher is to teach the meanings that need to be known. Another problem is whether to teach them together or at different times.

"Virtue" means:

- a. an acquired moral virtue
- b. an infused theological or moral Power — not a thing acquired by constant action, as a virtue is.

Number 6 has been provided for.

7. They say that one must be able to apply the word to all situations where it does apply.

For example, disrespect to parents is such and such a thing.

Is this disrespect? Is that disrespect?

This has been provided for by genus, species, etc.

8. They say that one must recognize the unacceptability of the word in places where it does not apply. This is covered under Number 7.

9. They say that we should be able to see cause-and-effect relationships. This is provided for. Page 82,3. tells

us that the effects which a thing produces may be included under properties.

10. They say that we must be able to draw inferences.

This is provided for under several headings, and in addition some attempt is made to state what kind of inferences need to be drawn.

11. Spearman speaks of the relation of attribution: e.g., goodness belongs to God.

This is provided for. See page 79, c, I.

12. Our problem is how far to push the relation of attribution. All sin, for example, is bad, but we do not need to test for knowledge of that fact whenever we are dealing with sin. It is often more important to know just what the sin is and just what is not that kind of sin.

12. Spearman speaks of the relation of identity.

This means, for example, that a man has the nature and the rights of a man whether unborn, an infant, demented, etc., or that water is water whether in liquid, gaseous, or frozen form.

This is implicitly cared for under genus and species,

but must be kept explicitly in mind.

13. Spearman speaks of the relation of time.

This is given on page 81,2. one of the interrogatives "when" provides this relation.

The relation has a limited application in religion, but should be kept in mind. For example, we might ask, in teaching baptism, whether the coming in of sanctifying grace happens before, or simultaneously with, the going out of original sin.

14. Spearman's relations of space and conjunction apply only to mathematics.

15. Spearman speaks of the relation of cause — that one thing is the cause of another. Correlatively, one thing is the effect of another. This has been provided for in speaking of cause-and-effect relationship.

16. Spearman speaks of the relation of objectivity.

This means that one who knows, feels, appreciates, desires, etc., perceives a relation between himself and the thing known, felt, appreciated, desired, etc. This has been provided for on page 79 and 80.

17. Spearman speaks of the relation of constitution.

Baptism and Penance, for example, constitute the sacraments of the dead. This has been provided for on page 79, where we read that accidental qualities do not produce specific differences.

18. Spearman speaks of the relation of likeness (implicitly of its correlative unlikeness). In what are two things alike?

This has been provided for on page 78, b. — the species, and on page 85,3. where we are told that we should perceive common characteristics in various species.

19. Spearman speaks of the relation of evidence.

Cheating is evidence of deceit.

This has been provided for on page 82,3. where the effects relation is treated. This concludes Spearman's relations.

#### COMPREHENSION OF CONTEXTS

What has been said up to this point pertains to the comprehension of concepts (under which term we include definitions and statements of fact). There remains the comprehension of extended passages. To comprehend such passages, one

needs to comprehend the individual concepts. In addition, according to the authors cited, one needs the following types of comprehension:

1. Comprehension of the main point or points. What does this passage show or prove?
2. Comprehension of the facts that support the main point. Why is the main point true (or not true)?
3. Comprehension of the relevancy or irrelevancy of the facts or reasons alleged in support of the main point.
4. Comprehension of cause-and-effect relationships. Why did or does the thing brought out as the main point take place?

For example, the unjust steward was condemned. Why? Let it be noted that, if the reason is given in the passage, the reason is one of the main points. If it is not given, any attempt on the part of a test maker to discover whether the reason is perceived would not be directed toward testing comprehension of the passage in question, but rather comprehension of something learned elsewhere.

5. Ability to draw inferences.

This would appear to be chiefly — perhaps exclusively — ability to perceive the relation of evidence.

The Parable of the Prodigal Son proves that God is merciful.

Fear of 13 as an unlucky number proves the existence of silly and superstitious ideas, etc.

This concludes the summarization of the literature.

The next step is to construct a blueprint incorporating the material here presented.



## BLUEPRINT FOR CONSTRUCTING A TEST OF COMPREHENSION

Details	Example
I. The Genus (highest or subaltern)	Faith is an infused theological virtue
II. The Species or Specific Difference	Faith is the virtue by which we firmly believe all the truths God has revealed.
III. Properties	
1. Powers	Sanctifying grace confers the power to elicit a meritorious act.
2. Qualities	
a. Good, bad	The Mass is our best prayer. Sin is the only real evil.
b. Desirable, undesirable	We should love our neighbor as ourselves. It is undesirable to delay the baptism of an infant.
c. Certain, Probable	All men must die. Death may come suddenly.
d. The efficient cause (who makes or does it)	The bishop anoints the forehead of those to be confirmed with chrism in the form

of a cross.

- |    |                                             |                                                                                      |
|----|---------------------------------------------|--------------------------------------------------------------------------------------|
| e. | The material cause (out of what is it made) | Holy chrism is a mixture of olive oil and balm, blessed by the bishop.               |
| f. | The instrumental cause                      | The fire used in a holocaust                                                         |
| g. | The moral cause                             | one who persuades another to act                                                     |
| h. | The final cause (the purpose)               | The sacrament of penance was instituted to forgive the sins committed after baptism. |
3. The effects (the relation of evidence)
- Pride produces boasting; therefore boasting is an evidence of pride.

#### IV. Accidents or Accidental Qualities

What things not constituting specific difference are included? Spearman's relation of constitution.

Sin may be committed by thought, by word, by deed, by omission.

#### V. Conditions or Attendant Circumstances

- |                                                                                                                |                                                                |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1. Where?                                                                                                      | Unrepented mortal sin will be punished in hell.                |
| 2. When?                                                                                                       | Our redemption was accomplished when Christ died on the cross. |
| 3. How? (not the efficient, the instrumental, nor the moral cause, but rather, "with love, with hatred, etc.") | The martyrs suffered with joy.                                 |

VI. Inferences (applicable only in continued discourse) Any Gospel story may be used.

1. What is the main point?
2. What are the supporting details?
3. Are the supporting details relevant?
4. What principles follow?
5. To what cases do the principles apply?

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APPROVAL SHEET

The thesis submitted by Sister Marian Bernice Burke, S.P. has been read and approved by three members of the Department of Education.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

May 24, 1948  
Date

Austiny Schmidt, S.P.  
Signature of Adviser