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The Thought of Stephen Toulmin and Some Theological Reflections

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THE THOUGHT OF STEPHEN TOULMIN

AND SOME THEOLOGICAL REFLECTIONS

Research Paper

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CHAPTER I

INTRODUCTION

That science has become one of the gods of our era goes
without saying, and that it has caused problems for belief in
the God of traditional Christianity is similarly apparent. Our
schoolchildren can testify to what Mr. Frederick Ferré states
more sophisticatedly:

> /The7 appeal to scientific attitudes as providing
> the model of good thinking is very pervasive, and
> with reason. Just as scientific achievements have
> transformed the world we live in, so scientific
> methods of thinking have fundamentally influenced
> the ways we think--or acknowledge that we ought to
> think. The appeal to scientific method as the para-
> digm of responsible thinking is not only pervasive,
> therefore; it is also highly persuasive. It would
> be absurd to ignore man's most obviously successful
> instrument for understanding and controlling reality.
> The mind of the world--the secular mind--is rightly
> impressed with the critical rigor of empirical sci-
> ence. If this makes for difficulties in continuing
> to use language about "God," then so be it.[1]

However, it is by no means clear that such difficulties
need exist if our theology and our philosophy of science are
sophisticated and sensitive enough, and it is the aim of this
brief research report to examine the thought of one prominent
modern philosopher who has specialized in the philosophy of
science and who on purely philosophical grounds has concluded
that no antagonism must necessarily exist between science and
religion.

The five major works of Stephen Edelston Toulmin,[2] cur-
rently professor of philosophy at Brandeis University, that

will be treated in this paper are "Contemporary Scientific Mythology,"[3] An Examination of the Place of Reason in Ethics,[4] Foresight and Understanding,[5] The Philosophy of Science,[6] and The Uses of Argument.[7] It will be my object to set forth the essentials of Toulmin's thought concerning first science and secondly extra-scientific endeavors, especially theology; to relate some of Mr. Toulmin's conclusions to those of two promi- nent exponents of "ordinary language" philosophy, Ludwig Witt- genstein and Gilbert Ryle; and finally to look at the work of a few theologians, especially Schubert M. Ogden, who have at- tempted to dialog with and build upon thinkers such as Toulmin, Wittgenstein, and Ryle.

The few conclusions that such a short study allow one to make are along the following lines: science and religion do different jobs, different complementary and not contradictory jobs. Religious thought deals basically in personalistic, "self-involving" (a phrase used by Donald D. Evans[8]) terms, whereas science does not, and these different jobs and interests are reflected in their different logical structures and ap- proaches to problems. In short, there is room in the universe for both science and theology, and to know this is to enhance both our scientific and theological reflections.

CHAPTER II

THE LOGIC OF SCIENCE

Webster defines "logic" as, among other things, "the system or principles of reasoning applicable to any branch of knowledge or study."[1] It is to this kind of definition of logic that Toulmin addresses himself in a crucial passage in the Ethics:

> An examination of the situations in which one first looks for a "scientific explanation", and of the function of the explanation in these situations, can give one, therefore, an understanding of the <u>logic</u> of science. In talking of "logic" I am here including both
>   (i) the tests to be applied to a "scientific explanation" before one decides whether to accept it as "correct", reject it as "incorrect", or suspend judgement upon it, and
>   (ii) the limits to be placed on the scope of science, from which one is to decide when something that looks like a "scientific" assertion or question has become either nonsensical or nonscientific.[2]

This passage is crucial because it is echoed throughout Toulmin's writings and may be considered to be one of his basic theses.[3] I would like to use it as an outline to summarize his thinking about science, answering four questions: (1) in what kinds of situations do we look for a "scientific explanation"; (2) what is "the function of the explanation in these situations"; (3) what kinds of tests may be applied to scientific explanations; (4) what "limits /are7 to be placed on the scope of science."

(1) The first question that must be asked, then, is what

is the <u>Sitz im Leben</u> of science? What kinds of occurrences
or circumstances cause us to ask scientific questions? How
does science fit into the ordinary affairs of man?

It is interesting that here (and therefore in #2 below)
a shift in Toulmin's thought occurs, a shift from a more to a
less utilitarian-type position. In Ethics (and implied in PS)
Toulmin maintains that science arises from situations in which
the unexpected occurs: a person expects one thing but is sur-
prised when another occurs instead, e.g., one would expect a
stick to look straight when placed into some water (since it
looks straight everywhere else), but instead it looks bent.
Although in some circumstances of our lives it is wise to "ex-
pect the unexpected," and this may often be enjoyable, none-
theless most of the time we would like to know what to expect.
How can we get the future in line with the past and the present
is the question we ask.[4]

Whereas the early Toulmin was concerned with situations
in which we ask the rather utilitarian question "how can we
turn the unpredictable into the predictable," the later Toulmin
would argue that science arises in those situations in which we
ask the question "how can we relate !the anomalous to the
accepted'?"[5] The above account was too crude, for it failed to
take into consideration the fact that many times a person can
predict an occurrence, yet fail to explain it. E.g., the
Babylonians could predict astronomical phenomena better than
the Greeks could, yet we of the West maintain that the Greeks

"understood," could explain astronomical phenomena whereas the Babylonians could not. Science still deals with situations in which the "unexpected" occurs, but "unexpected" is not synonymous with "unpredictable" but with "anomalous," for I may be able to predict something with utmost precision and still be baffled by it.[6]

(2) It follows that Toulmin gives two different accounts as to how scientific explanations function in these situations, for the situations themselves are assessed differently. The first account is that scientific explanations serve "to bring our past experience to bear upon our present and future expectations, in such a way as to 'save appearances' and turn the unexpected, as far as possible, into the expected."[7] E.g., a scientific theory may show us other situations in which refraction occurs and why, because of the nature of light, it must occur, so that we will always expect a stick to look bent.

But if we maintain that scientific explanations are to "relate the anomalous to the accepted," then

> the central aims of science. . .lie in the field of
> intellectual creation: other activities--dianostic,
> classificatory, industrial, or predictive--are
> properly called "scientific" from their connection
> with the explanatory ideas and ideals which are the
> heart of natural science.[8] (Toulmin's italics)

What is "anomalous" and what is "accepted" introduces the important aspect of history into the discussion, for these change. At one time in history it is "natural" for planets to travel in straight lines, at another time it is "natural" for them

to travel in circles, at still another time it is "natural"
for them to move in ellipses. Different disciplines and dif-
ferent epochs accept different "paradigms" or "ideals of natural
order" which mark off "natural" from "unnatural" phenomena,[9]
mark off the "anomalous" from the "accepted." It is the func-
tion of scientific explanations to explain anomalous phenomena

> either by comparing them with other, more self-
> explanatory happenings of the same kind or by re-
> lating them to happenings of some other sort, which
> are thought to be intrinsically more natural, ac-
> ceptable, and self-explanatory.[10]

(3) As may have been expected from the above account of
the nature of scientific situations, the tests to be applied
to a scientific explanation are not as simple and straight-
forward as we commonly imagine. There are different kinds of
scientific assertions, and they are verified in different kinds
of ways. Since this is a much debated issue currently, I would
like to spend some time with Toulmin's views on the matter.

It is important, firstly, to note a basic distinction
Toulmin draws between two kinds of sciences: "descriptive" and
"explanatory" sciences.[11] These two kinds of scientific acti-
vities make two kinds of statements: the former makes what
he terms "habit-statements" and the latter "nature-statements."
The habit-statements of the descriptive sciences are clear,
straightforward, and follow the traditional rules of deductive
logic. E.g., the natural historian's job is to tell us how
many kinds of cats there are and what cats do; he takes the
classifications of our everyday speech (he may subdivide them

and add a Latin name, but this is superficial), identify the
animal, and study and enumerate its habits. Theories in this
kind of science (if they may be called theories at all) depend
for their verification (if we may speak of verification at all)
on the weight and number of observations. The more the observa-
tions the better the substantiation.

The nature-statements of the explanatory sciences, on the
other hand, are much more complex and do not follow the tradi-
tional rules of deductive logic. When light waves were dis-
covered, it was not as if another kind of cat had been discovered,
but what was discovered as "a fresh way of drawing inferences
about optical phenomena,"[12] a "representational device."[13] The
nature-statements of the explanatory sciences do not follow the
traditional rules of deductive logic because it is the object
of these sciences to discover "novel methods of representation
/models_7, and so of fresh techniques by which inferences can
be drawn--and drawn in ways which fit the facts" (my italics)[14]
(to infer, for example, what the length of the shadow will be
that is cast by a six foot wall at an angle of 30 degrees).

In other words, the explanatory scientists are not mere
collectors and summarizers of observations:

> Indeed, the inferences of physics are substantial
> just because they are so much more than transforma-
> tions of our observation-reports. If one has counted
> over all As and checked that they are all Bs, one
> has thereby checked that any particular A one selects
> will be a B: subsequent inferences from "All As
> are Bs" to "This A is a B" are automatic. On the
> other hand, if one has measured the height of a
> wall and the angle of elevation of the sun, one

has not thereby measured the depth of the sha-
dow cast by the wall; yet this is something which
the techniques of geometrical optics enable one
to infer, providing the circumstances are of a
kind in which physicists have found the techniques
reliable.[15] (my italics)

After one has carefully distinguished between the two

basic kinds of sciences, two further distinctions are neces-

sary: (a) one among different levels of an explanatory science,

say physics; (b) one among different explanatory sciences, be-

tween say physics and biology. It is essential, Toulmin asserts,

to keep in mind the "stratified" nature of an explanatory sci-

ence,[16] its "conceptual scaffolding."[17] All statements in a

science do not have the same logical status, and therefore are

to be verified in logically different ways. E.g., the science

of geometrical optics is based on the Principle of Rectilinear

Propagation, and Mr. Frederick Ferré says in capsule form what

Toulmin says at length: "The vindication /verification/ of a

science's basic principles will be in the success of the science

as a whole."[18] In other words, the only way one can "disprove"

the Principle of Rectilinear Propagation would be to show that

there is no need, no use for the entire science of geometrical

optics in our everyday lives. To do away with this principle

would be to render all the theories and laws of geometrical

optics meaningless, because they all assume and are based on

it.

As for the theories and laws that assume such a principle,

there are a number of tests that scientists apply. Of two

competing theories scientists ask which of the two is more
predictively reliable, which is more coherent (fits in better
with the theories established in adjacent fields of study),
which is more convenient (gives the better results with less
effort on the scientist's part),[19] and many others still.

I have deliberately emphasized the creative, non-experimental
side of science only because Toulmin does, but a further word
is necessary about the role of observation and experimentation
in the explanatory sciences. In short, experimentation and
observation determine how far a theoretical model (e.g., light
travels in straight lines) may be "deployed"; over what range
of circumstances it will help us to draw inferences. "Truth"
versus "falsity" is not the basic issue, but rather: will a
certain model or theory fit under certain circumstances. If
observation and experimentation show that its use must be
limited or that some of the techniques it implies must be sup-
plemented, that still does not do away with its value in the
wide region in which it is applicable. This leads Mr. Toulmin
to make some rather bold statements:

> Suppose one says that laws of nature are not true,
> false, or probable; that these terms are indeed
> not even applicable to them; and that scientists
> are accordingly not interested in the question of
> the "truth" of laws of nature--all of which might
> fairly be said: one does not thereby deny the
> obvious, namely, that scientists seek for the truth.
> One points out, rather, that the abstract noun
> "truth" is wider in its application than the ad-
> jective "true", that different types of statements
> need to be logically assessed in different terms,
> and that not every class of statement in which a
> scientist deals need be such as can be spoken of

> as "true"/"false"/"probable". This, of all
> things, is most often overlooked in the logical
> discussion of the physical sciences: it is there-
> fore essential to insist on it. Saying a law holds
> universally is not the same as saying that it is
> true always and not only on certain conditions.
> The logical opposition "holds"/"does not hold" is
> as fundamental as the opposition "true"/"untrue",
> and cannot be resolved into it.[20]

Observation and experimentation deal with the verification of

only one logical type of scientific statement.[21]

In distinguishing between different kinds of explanatory

sciences one also finds the absence of an unambiguous verifi-

cational apparatus. E.g., on one occasion a theoretical

astronomer may make use of a non-Euclidean geometry and adopt

light-rays as the standard of straightness, while on another

occasion he may find it more convenient to use Euclidean geo-

metry and speak of light-rays as being deflected. Technically,

he has contradicted himself: in the first case light-rays can

never be anything but straight (because they are the standard

of straightness), but in the second they are bent. However,

actually he is not contradicting himself, because, as Toulmin

remarks in a different but similar context,

> In the case of word-games, as of descriptions, the
> nature of the logical criteria we are to apply is
> best understood from a study of the activity--and
> especially the point of the activity--of which
> the type of speech forms a part.[22]

Euclidean and non-Euclidean sciences are put to different uses

within the wider context of theoretical physics, and hence

there is no contradiction between them, no need to attempt to

verify which geometry is true and which is false.

Also, as noted above (pg. 6), different disciplines accept different "paradigms" or "ideals of natural order" which mark off "natural" from "unnatural" phenomena, which leads to a situation in which these disciplines

> have really no common theoretical terms in which to discuss their problems fruitfully. They will not even <u>have</u> the same problem: events which are "phenomena" in one man's eyes will be passed over by the other as "perfectly natural".[23]

The different sciences have different jobs to do and, therefore, different problems. A musicologist does not explain the Choral Symphony by referring to atoms or neurons.

(4) This matter of relating different kinds of scientific activities leads conveniently into the discussion of relating scientific activity as a whole to other kinds of activities, or, in other words, the question of the limits of science. A statement of the limits of science is implicit in the above discussions concerning the <u>Sitz im Leben</u> of science, the function of scientific explanations, and the manner in which they are verified: when a statement that looks like a scientific assertion does not attempt to relate anomalous to accepted phenomena and cannot be "verified" in one of the several ways that scientific statements are (i.e. appropriate to its logical level), then such a statement is either (a) nonsensical or (b) non-scientific.[24]

An example of a nonsensical statement would be one that would attempt <u>in scientific terms</u> to justify <u>all</u> scientific explanations. A scientist <u>qua</u> scientist can only decide where

a genuine decision is offered, i.e., where he can decide
between this or that scientific explanation. But when someone
asks the question "can _any_ scientific explanation be correct?"
the only genuine decision that can be made is between science
or no science. The _Sitz_ _im_ _Leben_ itself is being called into
question, and it could be scarcely possible that we are being
asked to stop relating anomalous to accepted phenomena, for we
could not do that if we tried. If a scientist does give a
justification for science, then he is not doing so as a scien-
tist, but as a man-in-the-street.

The converse of this, and an interesting converse for a
theologian, is discussed by Toulmin in his essay "Contemporary
Scientific Mythology." Not only must we not pass non-scientific
statements off as scientific ones, but we must also guard
against masquerading scientific statements as metaphysical or
religious ones. As soon as scientific terms and statements
are wrenched out of their close association with phenomena, as
soon as they cease to be qualified in the rigorous way that
the "conceptual scaffolding" of a science requires, then they
lose the virtues and characteristics of what we know as science.

> When two people appeal to the same scientific
> theory as backing for different "world-views" or
> different political doctrines, how can we even set
> about choosing between them? Within science, we
> can at any rate prove our views in practice. But
> when we put scientific terms to non-scientific
> uses, this, the chief merit of a scientific ap-
> proach, is lost. For all that experiment or ob-
> servation can show, one scientific myth is as good
> as another.[23]

In my opinion Mr. Toulmin seems to concede tacitly the
need for myths,[26] but even if that is not the case, he clearly
maintains that once scientific statements are wrested from
their circumscribed contexts in scientific theory, they are
clearly no better than other myths. In fact, they may often
be worse. He states:

> We are inclined to suppose that myths must nec-
> essarily be anthropomorphic, and that personifi-
> cation is the unique road to myth. But this
> assumption is baseless: the myths of the twen-
> tieth century. . .are not so much anthropomorphic
> as mechanomorphic. And why, after all, should not
> the purposes of myth be served as effectively by
> picturing the world in terms of mythical machines
> as by invoking mythical personages?[27]

What is said here of religion may also apply to other fields:
scientific statements, by virtue of their Sitz im Leben and
the methods in which they are employed, must not be used as
aesthetic, ethical, or other kinds of statements. ". . .When
we use terms of a scientific origin in an extended manner, as
the vehicles of some more-than-scientific attitude to the world,
science is neutral between all conclusions."[28]

CHAPTER III

THE LOGICS OF OTHER FIELDS

The Logic of Ethics

Several questions naturally arise at this juncture in an
analysis of Mr. Toulmin's thought: since not all non-scientific
statements are nonsensical, since scientific statements should
not be made to do non-scientific jobs and vice versa, since
there are limits to scientific endeavor, what then is the status
of non-scientific statements? What is the logical relationship
between scientific statements and non-scientific ones?

Toulmin investigates ethics along lines similar to those
he discussed in his analysis of science (see pg. 3 above). He
states that he wants to indicate two things:

> (i) the different types of question which natur-
> ally arise in ethical contexts, and the ways in which
> they are answered; and
> (ii) the limits of ethical reasoning--that is,
> the kinds of occasion on which questions and consid-
> erations of an ethical kind can no longer arise.[1]

Once again we are forced back to ordinary life: what is the
context in which ethical reasoning arises? What is its role
or job in our common experience? Once this has been established,
we should be able to discern good ethical reasoning from bad.

Ethical reasoning is to be found in a different _Sitz im
Leben_ from that of scientific reasoning. Ethics is distinctly
social, and for once in his writings Toulmin gives us a fairly
pithy definition. Ethics is "a part of the process whereby the

desires and actions of the members of a community are har-
monised." Correspondingly, the function of ethical reasoning
in this kind of situation is "to correlate our feelings and
behaviour in such a way as to make the fulfilment of everyone's
aims and desires as far as possible compatible."[2]

There are many similarities between scientific and ethical
reasoning--the logics of science and ethics correspond in
several ways. Like science ethics endeavors to establish prin-
ciples which can stand on their own feet, which are independent
of person and occasion; different kinds of ethical questions
are answered in different ways (as different kinds of scienti-
fic questions are verified in different kinds of ways).[3] Most
importantly, at least for this inquiry, there are limits to
ethical inquiry which are established in ways similar to the
ways in which one establishes the limits of scientific in-
quiry.[4] One can ask an ethician to choose between this or that
ethical course or reason, but he cannot be asked as an ethician
to justify all ethical explanations: as an ethician there is
no choice open to him. When someone asks the question "can
any ethical explanation be correct?" the only genuine decision
that can be made is between ethics or no ethics, and the
ethician can give no better answer than the man-in-the-street.[5]
In a cogent passage that will bear on our discussion of the
function of theology, Toulmin states:

> Ethics may be able to "justify" one of a number of
> courses of action, or one social practice as opposed
> to another: but it does not extend to the "justification"

> of all reasoning about conduct. One course of ac-
> tion can be opposed to another: one social prac-
> tice can be opposed to another. But to what are
> we expected to oppose "ethics-as-a-whole"? There
> can be no discussion about the proposition, "Ethics
> is ethics"; any argument treating "ethics" as
> something other than it is must be false; and, if
> those who call for a "justification" of ethics
> want "the case for morality", as opposed to "the
> case for expedience", etc., then they are giving
> philosophy a job which is not its own. To show
> that you ought to choose certain actions is one
> thing: to make you <u>want to do</u> what you ought to
> do is another, and <u>not</u> a philosopher's task.[6]

But though there are important similarities between the

two fields, important and valid differences must not be ob-

scured. Because ethics has a different job to do from that

of science, it therefore does its job differently. E.g.,

scientific theory cannot modify the experiences it explains:

a scientist may explain to us why a stick looks bent or a sun-

set red, but he cannot keep us from seeing the stick as bent

or the sunset as red. However, it is the very function of

ethical statements to change our experiences and emotions,

whereas it was the function of science to change only our ex-

pectations. E.g., after a certain kind of ethical explana-

tion we may not experience an action as bad as we once did or

we may see a certain attitude now as noble whereas before it

seemed to us to be base.[7]

More specifically, ethics must not be considered quasi-

psychology, nor must the converse be entertained. To say

that ethics is applied psychology is to ignore the crucial

facts that morality came much before there was any psychology

to be applied and, secondly, that there are a great many good
people who know nothing about psychology and many psychologists
who are not always the best of men.[8] Furthermore, it should
be pointed out that a scientist, in order to be a scientist,
must specify what kind of material he is working with: he must
select and arrange his material with the greatest care possible
so that he may obtain a characteristic specimen in a repro-
ducible situation. Such, however, is not the case with an
ethician, who may be likened to an engineer in some respects,
for he can never, by definition, choose or arrange his material.
He is always presented with incompletely specified material in
an incompletely known situation.[9] In summary, Toulmin states:

> In so far as our psychology is imperfect, our
> morality has to develop independently of it; and
> their union remains an ideal towards which, like
> tunnellers under the Alps, the moralist struggles
> in one direction, the psychologist in another.[10]

From his account of the nature and development of science in
general, I think it is fair to conclude that psychology, or
any other science for that matter, will never achieve "per-
fection," and therefore that the autonomy of ethics remains
assured.[11]

The Logic of Logic

As the back cover states, Uses "extends into general
philosophy lines of enquiry already sketched by Mr. Toulmin
in his earlier books on ethics and the philosophy of science."
It is a difficult work, bristling with many parochial logical

issues, but its main thrust is very significant for and directly related by Toulmin to the question of the status of theological reasoning.

The programmatic question that Toulmin seeks to answer, and a very urgent one in view of the fact that we have established the autonomy of at least two fields of inquiry, is the following:

> Are the differences between the standards we employ in different fields irreducible? Must the things which, in practice, make a conclusion possible, probable, or certain--or an argument shaky, strong or conclusive--vary as we move from one field of argument to another?[12]

The question is answered by a criticism of the current state and posture of logical theory and by the positing of an alternative.

As long as logic continues to operate with a mathematical model, logical theory cannot do justice to the entire range of human inquiry: ethics, aesthetics, and theology (the last is explicitly defended by Toulmin on several occasions[13]) will always seem like second-rate human activities as long as logicians choose this skewed model upon which to operate and get their bearings. We should choose, rather, a model which will not a-priori degrade certain fields of inquiry. Toulmin suggests a jurisprudential analogy:

> Logic (we may say) is generalised jurisprudence. Arguments can be compared with law-suits, and the claims we make and argue for in extra-legal contexts with claims made in the courts, while the cases we present in making good each kind of claim can be compared with each other. A main task of

> jurisprudence is to characterise the essentials of
> the legal process: the procedures by which claims-
> at-law are put forward, disputed and determined,
> and the categories in terms of which this is done.
> Our own inquiry is a parallel one: we shall aim,
> in a similar way, to characterise what may be
> called "the rational process", the procedures and
> categories by using which claims-in-general can
> be argued for and settled.[14]

Working with this analogy he draws a distinction between two

aspects of an argument which have been obscured by logic's

holding to a mathematical model for its inquiry. In every ar-

gument in every field of inquiry we must recognize both the

force of its terms and the criteria for their use. By the

"force" of a term Toulmin means "the practical implications of

its use: the force of the term 'cannot' includes, for instance,

the implied general injunction that something-or-other has to

be ruled out in this-or-that way and for such-a-reason." By

contrast, "criteria" are considered to be the "standard, grounds

and reasons, by reference to which we decide in any context that

the use of a particular. . .term is appropriate."[15]

Once we accept this distinction it should be fairly clear

that our criteria are field-dependent (to use Toulmin's termin-

ology), while the force of our arguments are field-invariant.[16]

On the basis of logic alone there is nothing less logically

rigorous about, say, aesthetics because it does not use the

criteria of physics to decide between true and false aesthetic

proposition. Aesthetics does decide between true and false

statements (e.g., this is a great painting"), and it does so

with the rigor appropriate to the varying aspects of its

subject matter. But it does so on the basis of its own criteria:
just because it does not assess the Choral Symphony in terms
of electrons or neurons does not mean that aesthetic scholar-
ship is any less perspicuous or acute or discriminatory.

Logic cannot tell or prescribe beforehand how a field of
inquiry should do its business: how empirical would that be!
But, with its mathematical bias, this is precisely what logic
has attempted to do, and with predictably myopic results.
Logicians must be prepared to supply "not epistemological theory
but epistemological analysis."[17] It must become truly empirical:
descriptive rather than prescriptive, and therefore also his-
torical, for

> To think up new and better methods of arguing in
> any field is to make a major advance, not just in
> logic, but in the substantive field itself: great
> logical innovations are part and parcel of great
> scientific, moral, political or legal innovations.
> In the natural sciences, for instance, men such as
> Kepler, Newton, Lavoisier, Darwin and Freud have
> transformed not only our beliefs, but also our ways
> of arguing and our standards of relevance and proof:
> they have accordingly enriched the logic as well
> as the content of natural science.[18]

In conclusion Toulmin issues the following admonition:

> Broad similarities there may be between arguments
> in different fields, both in the major phases of
> the arguments. . .and in the micro-structure. . . :
> it is our business, however, not to insist on
> finding such resemblances at all costs, but to
> keep an eye open quite as much for possible dif-
> ferences. Thus, in some fields we should expect
> to find "necessary" conclusions as the rule, in
> others mainly "presumptive" ones: inferences war-
> ranted by "laws" will have one structure, those
> depending rather on simple empirical correlations
> will be somewhat different. Where differences of
> these kinds are found, we should normally respect

> them; we are at liberty to try and think up new
> and better ways of arguing in some field which
> specifically interests us; but we should beware
> of concluding that there is any field in which all
> arguments equally must be invalid. The temptation
> to draw this conclusion should be taken as a danger-
> sign: it indicates almost certainly that irrele-
> vant canons of judgement have entered into our anal-
> ysis, and that arguments in the field concerned are
> being condemned for failing to achieve something
> which it is no business of theirs to achieve.[19]

If there is one field in which a great many people have con-

cluded that "all arguments equally must be invalid" it is

theology, and I should like now to piece together what Mr.

Toulmin has to say about the status and function of theological

reasoning.

The Logic of Theology

Mr. Toulmin nowhere, to my knowledge, uses the phrase

"logic of theology," and as far as I am aware he discusses the

substance of theology only in two chapters of Ethics ("Contem-

porary Scientific Mythology" being in the main an argument

against the over-extension of scientific terms and concepts).

But on the basis of what he says about other fields of inquiry,

I feel that we are justified in talking of the "logic of theology"

(indeed, it is already a shibboleth in certain theological

circles), and although it would certainly be dangerous to ex-

trapolate too extensively from his discussion of theology,

nonetheless his remarks on the subject, though few, are rather

clear and are in clear-enough opposition to those of other

philosophers in his same philosophical tradition.

What establishes theology as a field worthy of investiga-
tion? Characteristically Toulmin would direct us to the roots
of theology in the ordinary affairs of man, in the various sit-
uations and activities of human existence in the world. Once
we have been so directed, it becomes fairly obvious that there
are some vexing questiong lying around in our analysis of sci-
ence and ethics: if scientists qua scientists cannot justify
science and if ethicians qua ethicians cannot justify ethics,
if justifications of these fields cannot be supplied in the
terms and with the conceptual apparatus of these fields, can no
justifications be supplied? Or are these questions merely
illusory?

No, such questions, "limiting questions" in Toulmin's termin-
ology, are not illusory; they are asked with too much insistence
and persistence for that, and most frequently in four situations:

> (i) When someone asks, "How do you explain
> that?", of something which there is no question of
> "explaining", such as the deaths on their birthdays
> of three children in one family.
> (ii) When someone asks, "But which ought I to
> do?", of two courses of action between which, morally,
> there is nothing to choose, and insists on an answer
> independent of his personal preferences.
> (iii) When someone asks, not just "What reason
> is there for accepting this explanation?"--meaning
> "this" one rather than "that"--but also, "What rea-
> son is there for accepting any scientific explana-
> tion?"
> (iv) When someone asks, not just "Why ought I
> to do this?"--meaning "this" course of action rather
> than "that" one--but also, "And why ought I to do
> anything that is right?"[20]

Although they resemble other kinds of questions in many dif-
ferent respects, nonetheless they are very different especially

in one regard: they can never be answered conclusively as can the questions of science or another field; they always seem to point towards infinite regresses. Such questions are not flagrantly extra-rational like many fairy tale-like conundrums, but they certainly are peculiar, for they never seem to satisfy a person.[21]

Such "limiting questions" make up the stuff of religion, the stuff (in Mr. Toulmin's terminology) of faith. They are both eminently practical and eminently theoretical, for they enable us to accept situations which logically cannot admit of a scientific explanation, to put our hearts into morality, to accept scientific explanations, and to decide for or against alternative courses of action with which ethics cannot help us, (where there is no question of one course of action being more socially beneficial than another). Furthermore, lest this sound overly much like a type of "God-of-the-gaps" strategy, Toulmin notes (as does the noted philosopher of science Karl Popper[22]) that this approach to religious belief along the lines of limiting questions is highly positive, constructive, and substantial. Psychologically these questions provide us with a sense of "wonder" at the universe;[23] they enable us to "accept the world, just as the explanations of science help us to understand it."[24] Historically, religious quests have proven to be the matrix for scientific quests, magic and primitive religion being the progenitors of modern science. At first, all uncertainty about the future was uniform, but gradually

science evolved to provide man with a "special, separate, and differentiated way of dealing with requests for exact knowledge."[25]

This does not mean, however, that religion has been obviated in the process. Toulmin argues:

> Not only shall we continue to ask these /limiting/ questions, but we shall genuinely want answers to them. And, of the answers which are given to us, we shall regard some as being better than others. Some, that is to say, will give us a reassurance which will not be disappointed: will allay our fear of "the eternity before and behind the brief span" of our lives, and of "the infinite immensity" of space; will provide comfort in the face of distress; and will answer our questions in a way which will not seem in retrospect to have missed their point.[26]

This may be taken tacitly to be Toulmin's exposition of the logic of theology, the standard by which one is to assess true from false religious assertions, the emotive context in our lives in which they find their use or job. Once we have properly delineated the function of faith, there is no reason to logically eliminate religion from the catalog of meaningful discourse.

In the arena of theology Toulmin ties his thought to a very personalistic, almost individualistic position, and terminologically his thought appears in Lutheran garb. We are advised to bear firmly in mind Pascal's distinction: we are neither to take everything literally nor to take everything spiritually, for

> it is asking for trouble if one ignores the difference between questions of science and ethics, which are matters of reason, and things like the existence of God, which are matters of faith. . . .

> We might describe the distinction between "faith"
> and "reason" in these terms--belief as a matter of
> reason is <u>belief</u> <u>of</u> a proposition of some kind:
> belief as a matter of faith is <u>belief</u> <u>in</u> a notion
> of some kind. . . . The very last question to ask
> about God is <u>whether</u> He exists. Rather, we must
> first accept the notion of "God": and then we shall
> be in a position to point to <u>evidences</u> <u>of</u> His exis-
> tence.[27] (Toulmin's italics)

Religion calls for "a method of the heart," and in his con-

cluding remarks on the subject, he states:

> I have been examining the logical characteristics
> of certain types of religious argument: namely,
> those which are most intimately related to our
> earlier discussions about ethics. This I am en-
> titled to do whatever my personal views about the
> importance or unimportance of religion. The pro-
> priety of particular arguments within a mode of
> reasoning as a whole is another. And while a dis-
> cussion of the first can properly appear in a book
> of logic, one's views on the second would be out
> of place, and belong rather in an autobiography.[28]

No doubt to the well-trained theological eye these utter-

ances do not seem sufficiently clear; they will appear Delphic,

ambiguous, small. But that is all we have so far from Mr.

Toulmin, and if one considers the fact that he does not pro-

fess to be a theologian, it may seem to be more than it really

is.

CHAPTER IV

TOULMIN'S KINSHIP WITH WITTGENSTEIN AND RYLE

It is now time to build a few tentative bridges--philo-
sophical and theological ones. The philosophical bridges will
not be as tentative as the theological ones, for as far as I
have been able to determine, only one prominent theologian,
Schubert M. Ogden, deals at all explicitly with the thought of
Stephen Toulmin. But many theologians (or philosophers of
religion, depending on how one proposes to slice up the theo-
logical task) are coming to base a great deal of their theologies
on philosophical analyses very similar to those of Mr. Toulmin,
and I would briefly like to sketch the nature of their philo-
sophical kinship with Toulmin before I press on to the theologians.

Toulmin many times throughout his writings acknowledges
his debt to especially two philosophers: Ludwig Wittgenstein
and Gilbert Ryle.[1] Wittgenstein's Philosphical Investigations[2]
and Ryle's The Concept of Mind[3] are the seminal works in the
philosophical movement commonly referred to as that of ordinary
language, in the ranks of which movement Toulmin is commonly
placed.

It is not difficult to find parallels in their thought.
Compare two often quoted passages from Wittgenstein's Investi-
gations with a seminal passage from Ethics. Wittgenstein:

> Our language can be seen as an ancient city: a
> maze of little streets and squares, of old and new
> houses, and of houses with additions from various

> periods; and this surrounded by a multitude of new
> boroughs with straight regular streets and uniform
> houses.[4]. . . Every sign by itself seems dead. What
> gives it life?--In use it is alive. Is life breathed
> into it there?--Or is the use its life?[5]

Toulmin:

> Speech is no single-purpose tool. It is, in fact,
> more like a Boy Scout's knife (an implement with
> two kinds of blade, a screw-driver, a corkscrew, a
> tin-and-bottle opener, a file, an awl, and even a
> thing for taking stones out of horses' hooves);
> and, further, it is one which we continually shape
> and modify, adding new devices (modes of reasoning.
> and types of concept) to perform new functions, and
> grinding old ones afresh, in the light of experience,
> so that they shall serve their old, familiar, well-
> tried purposes better.[6]

For both men human discourse is basically a functional, fluid

sort of thing, rather than rigid and superstreamlined.

It was Wittgenstein who, in making a complete about-face

from his earlier position, gave the lie to a monolithic pic-

ture of language and logic in which all different linguistic

activities were required to match up to one all-embracing

standard of meaning.[7] In the place of this view he substituted

an infinite number of "language-games," e.g.:

> Giving orders, and obeying them--Describing the
> appearance of an object, or giving its measure-
> ments--. . .Reporting an event--Speculating about
> an event--. . .Making a joke; telling it--Solving
> a problem in practical arithmetic--Translating from
> one language into another--Asking, thanking, cursing,
> greeting, praying.[8]

Each of these describes a linguistic topography whose character

must be respected for its differences as well as its similari-

ties to other topographies.

Many feel that Wittgenstein and his philosophical colleagues

are advocating a chaotic pluralism, a segmentalization of man
into an infinite number of compartments which destroy his whole-
ness and integrity. Such, in my opinion, is not the case, for
to reason so overlooks a seldom-used yet key concept in Witt-
genstein's Investigations which I think can be paralleled in
Toulmin's work.

Mr. Dallas M. High, in his book Language, Persons, and
Belief (one of the few thorough-going studies of Wittgenstein's
later thought from a theological perspective) maintains that
Wittgenstein was attempting in his later thought to cure language
of a sickness caused by an over-objectification of linguistic
forms; reductionism; and skepticism. By the use of the concept
"form of life," by inquiring into the use or job that different
kinds of linguistic activities perform, even by his style which
seems more like autobiographical ramblings and reminiscences
than a carefully plotted philosophical lecture, High maintains
that Wittgenstein is attempting to force philosophy and, indeed,
Western culture to return to a new personalism, to our funda-
mental roots as complex human beings.[9] All objective language,
all logic and science are based on "person-talk," and "person"
is a systematically elusive expression, an historical expres-
sion. All talk assumes a speaker and a hearer. This basic
personalism upon which all language is based is the "form of
life" at this juncture in Western civilization,[10] and conse-
quently it reveals the fiduciary basis of all language:

"Doubting has an end" /Philosophical Investigations,

pg. 180[7] or comes to an end wherein it is dependent
upon something else--something accepted and trusted
in--which has made even the method of doubt itself
possible.[11] The concept "believing" (also "personal
backing," "agreements in judgments," "civil accredi-
tation," and "accepting the given") is indispensable
to all forms of speaking and thinking about the
world. By this I am suggesting that the act of "be-
lieving" is on the same logical ground with those
concepts which are the bedrock of the function of
language. No human intelligence or speech, however
original or critical, can function outside the con-
ditions of judgment, personal assent, and the fiduciary
modes of human confidence and life. In short, language
(and what counts as "knowing") depends upon some sort
of "believing," whatsoever form of believing a person
or persons (as a culture) may accept. This is the
"given," to use Wittgenstein's term, which is never
clearly indentifiable nor demonstrable by means of
formal procedures but which we must and in fact do
accept and trust uncritically in any given logical
environment.[12]

"Believe that" statements are always dependent upon "believe
in" statements.

Toulmin, I believe I have shown above, arrives at a similar
sort of conclusive personalism in which belief-talk makes
sense. All of the exact statements about what to expect which
issue forth from science are grounded in "a general confidence
about the future"[13] which is the province of religion, of faith.
The "belief of" propositions of science and ethics are of a
different logical type from the "belief in" utterances of
religion, yet nonetheless they are intimately related through
the phenomena of "limiting questions" which we persist in
asking and which issue in very positive, healthy results when
we do ask them. (See pp. 23f.) One finally comes up against
Mr. Toulmin's autobiography (pg. 25): we find him as a person,

not simply as a scientist nor an ethician nor a philosopher,
quoting Pascal:

> When I consider the briefness of my life, swallowed
> up in the eternity before and behind it, the small
> space I fill, or even see, engulfed in the infinite
> immensity of spaces which I know not, and which know
> not me, I am afraid. . . . Who has set me here? By
> whose order and arrangement have this place and this
> time been allotted me?[14]

Similarly, Gilbert Ryle. The Concept of Mind attempts to
redeem human wholeness and personal integrity from the frac-
turing effect of Cartesian dualism which still holds sway in
much philosophical (technical as well as untechnical) thinking
today, a dualism expressed now by such dichotomies as body/
mind, believing/knowing, science/religion. Such dichotomies,
supported even by many theologians, are destructive of human
wholeness. Not that we should not clearly distinguish among
the different jobs that different languages ("categories" to
use Ryle's term) do. Indeed:

> If the seeming feuds between science and theology
> or between fundamental physics and common knowledge
> are to be dissolved at all, their dissolution can
> come not from making the polite compromise that
> both parties are really artists of a sort working
> from different points of view and with different
> sketching materials, but only from drawing uncom-
> promising contrasts between their businesses.[15]

But this is accomplished without a judgmental reductionism,
e.g., reducing ethics to psychology, scientific inquiry to
formal logic, musicology to physics, but by seeing where each
activity—in its own unique way—slots in to our common life
as total human beings. Instead of jumping to hasty, simplistic

dichotomies, we must be prepared to see the following:

> The settlement or even partial settlement of a
> piece of litigation between theories cannot be
> achieved by any one stereotyped manoeuvre. There
> is no one regulation move or sequence of moves as
> a result of which the correct logical bearings
> between the disputing positions can be fixed.[16]

Underlying all our various philosophical peregrinations, Ryle
reminds us, is the same kind of personalism that was encountered
in Wittgenstein and Toulmin: "Men are not machines, not even
ghost-ridden machines. They are men--a tautology which is
sometimes worth remembering.[17]

In Toulmin, and to a lesser degree in Ryle, certain develop-
ments in the idea of "language-games" or, to use a somewhat more
familiar term, "universes of discourse" have taken place.
Where Wittgenstein left the idea, it referred to a great com-
plex of things (see pg. 27). Now it has come to be equated
with different disciplines or "fields," such as science,
sciences, ethics, theology. Yet the lines of argument remain
more or less intact among all three thinkers. (Toulmin's
special appeal for Americans, it seems to me, is that he deals
most explicitly with scientific concepts, whereas Wittgenstein
and Ryle do so more obliquely.)

CHAPTER V

SOME THEOLOGICAL REFLECTIONS

Most, though by no means all, of the above has contributed
to a justification of theology--which is all the more amazing
because it does not come from theological circles--while only
some of the philosophers' argumentation deals with the substance
of theology. I then remains to be seen what a few theologians
can do and have done with this philosophical approach to
theology; how it has affected their answers to uniquely theo-
logical questions (methodology, salvation, grace, etc.) which
can be dealt with only by theologians. Most of the theologians
surveyed by this writer tend to tie the foregoing philosophical
position to other philosophical and theological postures;
strong synoptic, synthetic attempts are being made to tie
together several of the loose theological threads to be found
on both sides of the English Channel and the Atlantic Ocean.

Schubert M. Ogden is representative of this synoptic ten-
dency, and because he is the only theologian known to this
writer who bases a major work directly on the work of Mr. Toulmin,
I would like to dwell on him as some length. Ogden, a former
pupil of Rudolf Bultmann and author of a widely read study of
his teacher entitled Christ Without Myth, bases his The Reality
of God on Toulmin's analysis of the theological task.[1] According
to Ogden, theology on both sides of the Atlantic has reached
a crisis at the center of which is situated the problem of God:

the demythologizing program of Bultmann and the death of God

program both testify to the difficulty theologians are having

in speaking meaningfully about God. The dangers of super-

naturalism are clearly discerned (the dangers of a God unrelated

to the world), but no clear, compelling alternative has been

suggested to describe the divine presence: theologians wish

to affirm the joys of secularity along with the reality of God,

but lack the systematic power to do so without lapsing into

gibberish or irrelevancy. Ogden expresses the conviction:

> The only way any conception of God can be made more
> than a mere idea having nothing to do with reality
> is to exhibit it as the most adequate reflective
> account we can give of certain experiences in which
> we all inescapably share. This, too, it seems to
> me, is a conclusion that forces itself upon us out
> of our modern situation. We have slowly learned
> through our actual history that no assertions are
> to be judged true, unless, in addition to being
> logically consistent, they are somehow warranted
> by our common experience, broadly and fairly under-
> stood. But one thing, it would appear, in which
> almost all of us today share is just our experience
> as modern, secular men: our affirmation of life
> here and now in the world in all its aspects and
> in its proper autonomy and significance. My conviction is that it is in this secular affirmation
> that we must discover the reality of God in our
> time. The adequate response to secularistic nega-
> tions will not be made by a supernaturalism that
> is no longer tenable or by a naturalism that un-
> critically accepts the same negations. It will be
> made, rather, by an integral secularity--a secularity
> which has become fully self-conscious and which
> therefore makes explicit the faith in God already
> implied in what it itself affirms.[2]

This middle road of an integral secularity which is to

be walked between supernaturalism and naturalism is the road

of faith: not a faith unrelated to the world, as implied in

the antinomies faith/reason, belief/logic, or nature/grace
(see pg. 30 above). Rather, religious faith is an expression
"at the level of self-conscious belief"[3] of the faith upon
which all the endeavors and the autonomy of the secular world
is based. This is the kind of faith to which Toulmin refers
in his analysis of the religious situation: the faith that
is at the foundation of science and ethics; that does not con-
tradict them but rather supports them through the phenomena of
"limiting questions."

For Ogden then:

> The primary use or function of "God" is to refer to
> the _objective ground in reality itself of our ineradi-
> cable confidence in the final worth of our existence._
> _It lies in the nature of this basic confidence to af-_
> firm that the real whole of which we experience our-
> selves to be parts is such as to be worthy of, and
> thus itself to evoke, that very confidence.[4] (my
> italics)

To deny the existence of God, then, is to deny existence as
such. Those who propose nontheistic moral theories are
deficiently humanistic because they fail to take account of
the "basic confidence in the abiding worth of our life"[5] which
theism, and especially Christianity, affirms, and those who
outright deny the existence of God are involving themselves
in "nothing less than /an/ outright antinomy or self-
contradiction."[6] Such responses to living are sin.[7]

Ogden concurs with Toulmin that religion is the realm of
the eminently personal and maintains that of all philosophical
positions existentialism has provided the most acute analysis

of what it means to be a person. If theology is not to en-
croach upon the object language and realm of science, this
must not be seen as a reproach but as an invitation to culti-
vate its own realm, the realm of the personal, more zealously.
The older ontologies of the scholastics made the fatal mistake
of using object-language to describe God, but in Martin
Heidegger Ogden sees an ontology really relevant to the theo-
logical task:

> Because Heidegger's basic ontological orientation is
> not to the world of ordinary perception /the world
> of objects and science/, but to the more primal
> phenomenon of human existence, finitude is seen by
> him to consist not in temporality and relatedness
> as such, but in the limited mode of these perfec-
> tions appropriate to our own being as men. In
> their truly primal forms, temporality and relational
> structure are constitutive of being itself, and
> God's uniqueness is to be construed not simply by
> denying them, but by conceiving them in their
> infinite mode through the negation of their limi-
> tations as we experience them in ourselves.[8]

That scientific and religious statements look alike should not
deceive the reader of theology, warns Ogden, for object-
language and person-language will lead one to different, far-
ranging consequences. On the subject of verification, for
example, Ogden states:

> If a theological or metaphysical assertion is false,
> this is not because it fails in predicting what is
> disclosed by our particular external perceptions,
> but because it misrepresents the common structure
> of all our experiences, of which we are originally
> aware internally, and thus is falsified by any one
> of them we choose to consider.[9]

But, further, to ignore this distinction between these two
kinds of languages (those of objects and persons) will have

more drastic consequences than simply fouling up our verifi-
catory apparatus: to make the object-language of science
primary is idolatry. God made all things, but he became a
human being. And even beyond that, although God is surely
active at all times in a person's life and in the life of Jesus,
nonetheless there are crucial human events that are considered
to be of greater significance than other human events. It is,
therefore, in the birth, death, and resurrection that we see
the key to human personhood, and on this account the key to the
entire universe.[10]

Though it would certainly be crude to lump theologians
indiscriminately together and thereby dismiss their differences,
nonetheless a great deal of affinity does exist among several
important writers dealing with theology and its relationship
to linguistic philosophy. Such thinkers as Frederick Ferré,[11]
John Macquarrie,[12] James Richmond,[13] James Martin,[14] Donald
Evans,[15] and Ian Ramsey[16] concur that theology cannot compete
with nor be reduced to other disciplines. It is in this connec-
tion that Paul M. van Buren's widely read book The Secular
Meaning of the Gospel[17] comes in for a great deal of criticism.
Macquarrie says of van Buren's "reduced theology":

> Astronomy and chemistry have replaced astrology and
> alchemy among modern educated people, and are dif-
> ferent pursuits, with quite different aims from
> those of the old occult pseudo-sciences. Because
> these modern sciences are different, the difference
> is made clear by giving them different names. No
> one would dream of calling them "reduced astrology"
> and "reduced alchemy", whatever these expressions
> might mean. If the word "God" is dead, then obviously

> God-talk and theology are dead, and we may as well
> replace them with ethics or whatever is considered
> appropriate. But let us not confuse the issue by
> talking about a "reduced theology" which is no
> theology at all.[18]

Van Buren's position, according to Macquarrie and others,[19] both

does away with theology (objections to the contrary notwith-

standing) and is bad logic, for (as Toulmin might say) it ig-

nores and glosses over important features of the logical geography

of our language.

This does not mean that theology for these thinkers ceases

to be eminently personal, as it is for van Buren and (I hope I

have shown) for Toulmin and Ogden. Evans' talk about "depth

experiences" and "I-Thou encounters";[20] Macquarrie's footing in

Heidegger's personalistic ontology;[21] Ferré's taking the "con-

ceptual model" of theology to be "the creative, self-giving,

personal love of Jesus Christ";[22] all this points towards con-

currence with one of Ramsey's characteristic statements:

> Well, does not the way in which distinctively per-
> sonal situations parallel those which are charac-
> teristically religious, suggest close logical kinship
> between "I" and "God"? Both, by the standards of
> observational language, are odd in their logical
> behaviour.[23]

Personal, but odd. Theology is odd because it is not history,

not psychology, not anything else but theology, just as psychology

is nothing else but psychology. One would not want it any other

way, for as Ramsey states: "the central problem of theology

is how to use, how to qualify, observational language so as

to be suitable currency for what in part exceeds it--the

situations in which theology is founded."[24] This task belongs

alone to theology, and such theological talk as that surrounding

"sin," "grace," "salvation," "the lordship of Jesus Christ"

cannot be reduced to historical or psychological statements

any more than one can reduce biology to physics or geography to

mineralogy.

Finally, just as we must keep in mind the "stratification"

and "conceptual scaffolding" of the different sciences (see

pg. 8 above) and the reliance of each upon some "paradigm" or

"ideal of natural order" (see pg. 6 above), so too with theology.

All theological statements are not of the same logical type.

Richmond sees basically three types of theological statements:

moral, revelational, and historical.[25] Macquarrie calls the

"basic logic" of theology the "language of existence and being":

a complex of mythological, symbolic, analogical, paradoxical,

and empirical types of statements, all of which have their

proper ecological niche in our theological vocabularies.[26] And

Ferre, in discussing the "manifold logic of theism," sets forth

the "paradigm" for this "conceptual scaffolding":

> Theological speech projects a model of immense
> responsive significance, drawn from "the facts,"
> as the key to its conceptual synthesis. This model,
> for theism, is made up of the "spiritual" charac-
> teristics of personality: will, purpose, wisdom,
> love, and the like. For Christianity, more speci-
> fically, the conceptual model consists in the
> creative, self-giving, personal love of Jesus Christ.
> In this model is found the only literal meaning
> which these terms, like "creative," "personal,"
> and "love," can have in the Christian vocabulary.
> All the concepts of the Christian are organized
> and synthesized in relation to this model. The

efforts of systematic theology are bent to expli-
cating the consistency and coherence of the synthe-
sis built on this model of "God" as key concept.
Christian preaching is devoted to pointing out the
applicability of this conceptual synthesis to com-
mon experiences of life. And Christian apologetics
struggles to show that the synthesis organized
around this model is adequate to the unforced inter-
pretation of all experience, including suffering and
evil.[27]

Unlike other disciplines, the model for Christian theology

never changes.

CHAPTER VI

CONCLUSIONS

The way lies strewn with conclusions, but perhaps I can summarize them briefly in three ways.

(1) Natural theology, just like God, is not dead. The very philosophical tradition (British empiricism) which produced Hume's destruction of St. Thomas has also now produced Toulmin, who by analyzing science and other human endeavors on their own terms has arrived at an appreciation of the life and way of faith.

This is not to make nature a subjective genitive, but rather an objective genitive: we should say theology of nature, perhaps, rather than natural theology. Such is more or less the approach of John B. Cobb in his A Christian Natural Theology[1] and also John Macquarrie, who writes succinctly:

> Let it suffice to say that I do not think that one can prove the reality of God or establish the 'truth' of faith on the basis of empirical arguments. The evidence is too ambiguous, and furthermore the logical connections between the premises and the conclusion are too dubious. But this is not to deny all value to natural theology. Though it could not establish a religious faith, it can support one. The point is that any faith must let itself be exposed to the observable facts of the world in which we live. The business of natural theology is to show that these facts are not incompatible with the convictions of faith, and may even tend to confirm these convictions.[2]

In short, there is room in the universe for both science and theology, and to know this is to enhance both our scientific and theological reflections.

(2) Theology, rather than talking the object-language of the sciences, essentially talks person-language. Theology should not be embarassed by the "systematic elusiveness" of person-language, for such language remains at the basis of all object-language. At our roots we are human beings, not objects. (See especially pg. 29 above.)

(3) Theologians not only must be conscious of the unity of the theological task--speaking the word of God's love in Jesus Christ as clearly and effectively as possible--but they must also be sensitive to the diversity of the theological task, to the "stratification" and "conceptual scaffolding" of theology. The two, after all, go hand in hand.

NOTES

CHAPTER I

1   Frederick Ferré, "Science and the Death of 'God,'" in
    Ian G. Barbour, editor, Science and Religion (New York:
    Harper & Row, 1968), pp. 135-136.

2   Born March 25, 1922. Educated at King's College, Cam-
    bridge: B.A. 1943; M.A. 1946; Ph.D. 1948; M.A. (Oxon)
    1948. Positions held--Fellow of King's College, Cam-
    bridge 1947-51; University Lecturer in the Philosophy of
    Science, Oxford, 1949-55; Acting Head of the Department
    of History and Methods of Science, University of Mel-
    bourne, Australia, 1954-55; Professor of Philosophy, Univ.
    sity of Leeds, 1955-59; Visiting Professor of Philosophy
    at New York, Stanford, and Columbia Universities, 1959-
    1960; Director, Nuffield Foundation Unit for the History
    of Ideas, 1960-1964; Counsellor, Smithsonian Institute,
    1966-. Who's Who 1969-1970--An Annual Biographical Dic-
    tionary.(New York: St. Martin's Press, 1969), pg. 3106.

3   S. E. Toulmin, "Contemporary Scientific Mythology," in
    Alasdair MacIntyre, editor, Metaphysical Beliefs (London:
    SCM Press, 1957), pp. 11-81. Hereinafter: CSM.

4   S. E. Toulmin, An Examination of the Place of Reason in
    Ethics (Cambridge: At the University Press, 1968). Here-
    inafter referred to as Ethics.

5   S. E. Toulmin, Foresight and Understanding--An Enquiry
    Into the Aims of Science (New York: Harper Torchbooks,
    1961). Hereinafter referred to as FU.

6   S. E. Toulmin, The Philosophy of Science--An Introduction
    (New York: Harper Torchbooks, 1953). Hereinafter referred
    to as PS.

7   S. E. Toulmin, The Uses of Argument (Cambridge: At the
    University Press, 1964). Hereinafter referred to as Uses.

8   Donald D. Evans, "Differences Between Scientific and
    Religious Assertions" in Barbour (see n. 1), passim; and
    Donald D. Evans, The Logic of Self-Involvement (London:
    SCM Press, 1963), especially pp. 257-262.

CHAPTER II

1   C. L. Barnhart, Editor in Chief, The American College
     Dictionary (New York: Random House, 1963), pg. 717.

2   Ethics, pp. 98f.

3   FU, pp. 13-17; PS, 13f.; Ethics, pp. 113, 205f.; Uses,
     pp. 39-42; CSM, pp. 77-81.

4   Ethics, pp. 86f.

5   FU, pg. 61.

6   FU, pp. 44f.

7   Ethics, pg. 88.

8   FU, pg. 38.

9   FU, pp. 44-82.

10   FU, pg. 63.

11   PS, pp. 17-56.

12   PS, pg. 25.

13   PS, pg. 26.

14   PS, pg. 34.

15   PS, pg. 34.

16   PS, pp. 80f.

17   CSM, pg. 41.

18   Ferré, pg. 138f.

19   Ethics, pg. 95; FU, pg. 115.

20   PS, pp. 79f.; FU, pp. 84, 108.

21   FU, pp. 100, 109.

22   Ethics, pg. 82.

23   FU, pp. 57, 93.

24   Ethics, pp. 99-101.

25   CSM, pg. 25.

26   CSM, passim, especially pg. 81.

27   CSM, pg. 16.

28   CSM, pg. 75.

CHAPTER III

1   Ethics, pg. 160.

2   Ethics, pp. 136f.

3   Ethics, pg. 148.

4   Ethics, pp. 131-161, especially pg. 156.

5   Ethics, pp. 161f.

6   Ethics, pp. 162f.

7   Ethics, pg. 127.

8   Ethics, pp. 174f.

9   Ethics, pg. 176.

10   Ethics, pp. 176f.

11   On pg. 63 of FU Toulmin states: ". . .we shall find men's scientific ideas at the mercy of history, and be forced to recognize that the intellectual hierarchy of the sciences has been subject to profound changes."

12   Uses, pg. 39.

13   Uses, pp. 9, 222, 226.

14   Uses, pg. 7.

15   Uses, pg. 30.

16   Uses, pg. 38.

17   Uses, pg. 258.

18   Uses, pg. 257.

19   Uses, pp. 256f.

20   Ethics, pg. 203.

21   Ethics, pp. 205f.

22   Karl R. Popper, The Logic of Scientific Discovery (second English edition; New York: Harper Torchbooks, 1968), pp. 37f.

23   Ethics, pg. 204.

24   Ethics, pg. 209.

25   Ethics, pg. 211; CSM, passim.

26   Ethics, pg. 212; CSM, passim.

27   Ethics, pp. 212ff.

28   Ethics, pg. 221.

CHAPTER IV

1   Ludwig Wittgenstein, d. 1951, was Professor of Philosophy at Cambridge University. A short but incisive survey of his thought to which I am indebted is to be found in W. D. Hudson, Ludwig Wittgenstein--The Bearing of his Philosophy upon Religious Belief (Richmond, Va.: John Knox Press, 1968). Gilbert Ryle is Professor of Philosophy at Oxford University.

2   Ludwig Wittgenstein, Philosophical Investigations, translated by G. E. M. Anscombe (third edition; New York: The Macmillan Company, 1958).

3   Gilbert Ryle, The Concept of Mind (London: Hutchinson of London, 1949).

4   Wittgenstein, pg. 8e.

5   Wittgenstein, pg. 128e.

6   Ethics, pg. 83.

7   Wittgenstein's early thought is most fully presented in his Tractatus Logico-Philosophicus, translated by Pears

and McGuinness (London: Routledge and Kegan Paul, 1961). The most widely read exposition of this philosophical position is A. J. Ayer's <u>Language</u>, <u>Truth</u>, <u>and</u> <u>Logic</u> (London: Victor Gollancz, 1936).

8   Wittgenstein, <u>Philosophical Investigations</u>, pp. 11ef.

9   Dallas M. High, <u>Language</u>, <u>Persons</u>, <u>and Belief</u> (New York: Oxford University Press, 1967), pp. 22f.

10   High, pp. 126f.

11   High, pp. 127f.

12   High, pp. 140f.

13   <u>Ethics</u>, pg. 216.

14   <u>Ethics</u>, pp. 209f.

15   Gilbert Ryle, <u>Dilemmas</u> (Cambridge: At the University Press, 1954), pp. 81f.

16   Ryle, <u>Dilemmas</u>, pg. 126.

17   Ryle, <u>The</u> <u>Concept</u> <u>of</u> <u>Mind</u>, pg. 81.

CHAPTER V

1   Schubert M. Ogden, <u>The Reality of God and Other Essays</u> (New York: Harper & Row, 1963), see especially pp. 27-39.

2   Ogden, pg. 20.

3   Ogden, pg. 31.

4   Ogden, pg. 37.

5   Ogden, pg. 37.

6   Ogden, pg. 40.

7   Ogden, pp. 215f., 226f.

8   Ogden, pg. 157.

9   Ogden, pg. 93.

10   Ogden, pp. 164-187.

11   Frederick Ferré, Language, Logic and God (New York: Harper & Row, 1961), especially pp. 146-166.

12   John Macquarrie, God-Talk (New York: Harper & Row, 1967), especially pp. 11, 99, 181.

13   James Richmond, Faith and Philosophy (Philadelphia: J. B. Lippincott, 1966), especially pp. 187-191.

14   James Martin, The New Dialogue Between Philosophy and Theology (New York: The Seabury Press, 1966), especially pp. 75-78, 89, 175-179.

15   Donald D. Evans, "Differences Between Scientific and Religious Assertions" (see CHAPTER I, n. 8), passim.

16   Ian T. Ramsey, Christian Discourse--Some Logical Explorations (London: Oxford University Press, 1965) and Religious Language--An Empirical Placing of Theological Phrases (New York: The Macmillan Company, 1957).

17   Paul M. van Buren, The Secular Meaning of the Gospel--Based On an Analysis Of Its Language (New York: The Macmillan Company, 1963).

18   Macquarrie, pg. 12.

19   See Ogden, pp. 14f., 85-90, 159f.; notes 11-14 of this chapter.

20   Evans, "Differences Between Scientific and Religious Assertions," passim; The Logic of Self-Involvement, pp. 259-260.

21   Macquarrie, passim.

22   Ferré, Language, Logic and God, pg. 164.

23   Ramsey, Religious Language, pg. 42. See also Christian Discourse, pg. 77.

24   Ramsey, Religious Language, pp. 42f.

25   Richmond, pg. 210.

26   Macquarrie, pp. 238f.

27   Ferré, Language, Logic and God, pg. 164.

CHAPTER VI

1   John B. Cobb, Jr., _A Christian Natural Theology--Based On the Thought Of Alfred North Whitehead_ (Philadelphia: The Westminster Press, 1965), pp. 11-21.

2   Macquarrie, pg. 234.

BIBLIOGRAPHY

A. Primary Sources

Toulmin, Stephen Edelston. "Contemporary Scientific Myth-
    ology," Metaphysical Beliefs. Edited by Alasdair Mac-
    Intyre. London: SCM Press, 1957. Pp. 11-81.

------. An Examination of the Place of Reason in Ethics. Cam-
    bridge: At the University Press, 1968.

------. Foresight and Understanding. New York: Harper Torch-
    books, 1961.

------. The Philosophy of Science. New York: Harper Torchbooks,
    1953.

------. The Uses of Argument. Cambridge: At the University
    Press, 1964.

B. Secondary Sources

Ayer, A. J. Language, Truth, and Logic. London: Victor Gol-
    lancz, 1936.

Cobb, John B., Jr. A Christian Natural Theology. Philadelphia:
    The Westminster Press, 1965.

Evans, Donald D. "Differences Between Scientific and Religious
    Assertions," Science and Religion. Edited by Ian G.
    Barbour. New York: Harper & Row, 1968. Pp. 101-133.

------. The Logic of Self-Involvement. London: SCM Press,
    1963.

Ferré, Frederick. Language, Logic and God. New York: Harper
    & Row, 1961.

------. "Science and the Death of 'God,'" Science and Religion.
    Edited by Ian G. Barbour. New York: Harper & Row, 1968.
    Pp. 134-156.

High, Dallas M. Language, Persons, and Belief. New York:
    Oxford University Press, 1967.

Hudson, W. D. Ludwig Wittgenstein. Richmond, Va.: John Knox
    Press, 1968.

Macquarrie, John. God-Talk. New York: Harper & Row, 1967.

Martin, James Alfred, Jr. The New Dialogue Between Philosophy and Theology. New York: The Seabury Press, 1966.

Ogden, Schubert M. The Reality of God. New York: Harper & Row, 1963.

Popper, Karl R. The Logic of Scientific Discovery. 2nd English edition. New York: Harper Torchbooks, 1968.

Ramsey, Ian T. Christian Discourse. London: Oxford University Press, 1965.

------. Religious Language. New York: The Macmillan Comapny, 1957.

Richmond, James. Faith and Philosophy. Philadelphia: J. B. Lippincott, 1966.

Ryle, Gilbert. The Concept of Mind. London: Hutchinson of London, 1949.

------. Dilemmas. Cambridge: At the University Press, 1954.

Van Buren, Paul M. The Secular Meaning of the Gospel. New York: The Macmillan Company, 1963.

Wittgenstein, Ludwig. Tractatus Logico-Philosophicus. Translated from the German by Pears and McGuinness. London: Routledge and Kegan Paul, 1961.

------. Philosophical Investigations. Translated from the 3rd German edition by G. E. M. Anscombe. New York: The Macmillan Company, 1958.