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The Logic of True Narrative Representations

John W. Oller, Jr. and Steven Collins

Abstract:
This paper proves that TNRs are the only representations that are (1) relatively determinate with respect to their embodied meanings, (2) well-connected to the matter-space-time continuum, and (3) fully generalizable to all possible contexts (real or imagined) with respect to their relatively well-determined content. It follows that if the Bible is a TNR, then the genuine facts of history cannot contradict it, nor it them. If TNR-theory is correct, it is possible, as a result, to set subjects such as hermeneutics and biblical archaeology on a strictly logical footing.

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The Logic of True Narrative Representations*

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Theories of "narrative logic" and "narratology" have been applied to biblical hermeneutics, but have depended on fictional writings in their formation.[1] Studies of fiction, however, cannot uncover or explain the unique formal perfections of true stories, i.e., of true narrative representations (TNRs). It has been shown that the logical peculiarities of TNRs are not shared by fictions (nor even by true general representations).[2] Also, while the meanings of fictions and generals can be shown in TNRs, the reverse is impossible. The reason is that all fictions and generals depend on TNRs to obtain relatively determinate meanings. TNRs are the only representations that are (1) relatively determinate with respect to their embodied meanings, (2) well-connected to the matter-space-time continuum, and (3) fully generalizable to all possible contexts (real or imagined) with respect to their relatively well-determined content. It follows that if the Bible is a TNR in its original autographs, genuine facts of history cannot contradict it, nor it them.

I. INTRODUCTION

This paper has a three-fold purpose: first, to show the distinctive formal character of true narrative representations (TNRs)—the kind of assertive representations found in true stories that report nothing false of the facts they are about; second, to show why TNRs are crucial to

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[1] This fact is noted by Gérard Genette, "Fictional Narrative, Factual Narrative," *Poetics Today* 11 (1990) 755-774. He cites the well-known theories of Paul Ricoeur and Roland Barthes, both of which are grounded in fictional examples.

[2] Proofs of the unique logical properties of TNRs have appeared in a series of publications beginning in 1993: see the first author's, "Reasons Why Some Methods Work," *Methods That Work: Ideas for Literacy and Language Teachers* (ed. J. W. Oller, Jr.; Boston: Heinle and Heinle, 1993) 374-385; "Adding Abstract to Content and Formal Schemata: Results of Recent Work in Peircean Semiotics," *Applied Linguistics* 19/3 (1995) 273-306; "How Grammatical Relations Are Determined," *The 22nd Annual LACUS Forum*, (ed. B. Hoffer; Chapel Hill, North Carolina: University of North Carolina Press, 1996) 37-88; "Semiotic Theory Applied to Free Will, Relativity, and Determinacy: Or Why the Unified Field Theory Sought by Einstein Could Not Be Found," *Semiotica* 108 3/4 (1996) 199-244; "Word and Icon: The Indispensable Connection as Seen from a General Theory of Signs," *Word and Icon: Saying and Seeing* (ed. Lewis Pyenson) (Lafayette, Louisiana: The Center for Louisiana Studies, University of Louisiana at Lafayette, 1996) 50-62.

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hermeneutic studies of history and science and of all representations that aim to be true of the material world (as in biblical archaeology); third, to show that instead of TNRs being dependent on fictions (or theories thereof), exactly the reverse is true. All representations (including fictions, errors, lies, and all general representations) depend for every smidgen of their meaning on the existence of and shared common knowledge of TNRs.

Our paper begins at an introductory level, but carries TNR-theory beyond prior publications. In particular the pragmatic perfections of TNRs—known as determinacy, connectedness, and generalizability[3]—are introduced and explained, but, in addition, certain syntactic perfections are also demonstrated,[4] and a still more abstract set of semantic perfections is also shown to accrue only to TNRs. These findings follow from a perfectly general application of the method of exact logic as laid out by Charles S. Peirce in 1865 and thereafter.[5] To begin with, an exposition of "exact logic" is presented so that the underlying logico-mathematical method can be understood. Then, the pragmatic, syntactic, and semantic perfections of TNRs are demonstrated, and certain logical consequences for the sciences, hermeneutic studies in general, and biblical studies in particular, are considered.

II. AN EXPOSITION OF "EXACT LOGIC"

The entire method can be summed up in a single statement: *No argument or distinction is admitted until its necessity has been demonstrated.* It must be shown for each and every part of the theory that without that part, a logical inconsistency (or often an infinite repeating series of them) must arise. In the final analysis, everything in the theory to be presented here (and that has been published elsewhere) rests on the "mere consistency" of signs and nothing else. However, to make the discussion comprehensible to persons unfamiliar with the method of exact logic, it is necessary to provide certain elaborations and explanations in addition to the strict proofs that form the backbone of the entire structure. The ancient logicians called each such explanation a "scolium" (i.e., a tutorial) and aimed to label them separately from their proofs. Here, the scolia (tutorials) are incorporated seamlessly as the discussion proceeds. The scolia are not separately indicated, but in order to call attention to the critical results of the theory, proofs are punctuated with the traditional Latin abbreviation, *Q.E.D.* (*Quod Erat Demonstradum*—which was to be demonstrated). However, in view of the didactic purpose of this paper in order to achieve a comprehensible exposition, though formal necessity is never set aside, it is sometimes backgrounded for the sake of comprehensibility.

By applying the method of exact logic, it is not necessary to beg the reader to accept any doubtful definition or proposition whose necessity has not first been demonstrated. This does not guarantee that every reader will naturally agree with the arguments presented, but that from a

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[3] As shown in Oller, "Reasons Why Some Methods Work" and in "How Grammatical Relations Are Determined" (as cited in footnote 2).

[4] By our reading—per the first author's "On the Relation Between Syntax, Semantics, and Pragmatics," *Linguistics: An International Review* 83 (1972) 43-54—syntax pertains to the sequential and/or, spatio-temporal relations between material things and event sequences as seen in representations; semantics pertains to the abstracted meanings associated with the material content of things and event sequences; and pragmatics pertains to the concrete meanings as found in the hard objects, social relations, and events referred to by representations.

[5] A succinct statement of the method can be found in C. S. Peirce, "The Logic Notebook," *Writings of Charles S. Peirce: A Chronological Edition, Volume 1* (eds. M. Fisch, C. J. W. Kloesel, E. C. Moore, D. Roberts, L. A. Ziegler, and N. P. Atkinson) (Indianapolis, Indiana: Indiana University Press, 1982) 337-350.

strict logical point of view each element of the theory is shown to be necessary before it is put forward. Such a method escapes dependence on the sort of "common notions" (definitions) and undemonstrated propositions to which Euclid and his contemporaries had to appeal. In effect, dependence on such unproved propositions amounts to special pleading (begging the acceptance of unproved assumptions). In Euclid's geometry, for instance, special pleading was relied upon from the beginning. Consider two examples. First, the proposition that parallel lines never diverge nor meet involves question begging, as does the claim that the part must be less than the whole. Neither of these propositions could be properly proved, and yet both were accepted as necessary to Euclid's system by special pleading. The reader was asked to accept such as due to "common notions" or definitions. However, such special pleading involves mistaking the rhetorical device of begging the question for mathematical reasoning. Such flawed reasoning is highly likely to lead to other errors.

In fact, Euclid's assumption about parallel lines, though not strictly false, turned out not to be necessary either, and his assumption about the part always being smaller than the whole, was later shown to be false. The part, in fact, may be equal to the whole. For instance, in any line segment AB, with end points at A and B, if a third point C is defined between the first two, to give segment AC, it will be true that the part is less than the whole, i.e., AC < AB; but if C is allowed to coincide with B, a possibility that cannot logically be excluded, the part may be exactly equal to the whole, AC = AB, showing one of Euclid's long hidden blunders. That error, along with others, was concealed in assumptions that were not subjected to the fully rigorous requirement of consistency.

In the method of exact logic, by contrast, nothing is hypothesized except by a rigorous derivation that deductively points to one or usually an infinitude of necessary inconsistencies if that proposition were not to be accepted. For this reason, Peirce referred to his method as "exact" logic by which he intended perfectly necessary, or *strictly* mathematical, reasoning. Thus, "exact logic" is nothing other than mathematicized logic. It is profoundly more rigorous than the "axiomatic" method (ultimately rhetorical question-begging) applied by Euclid.

The Peircean approach begins from the premise that *consistency is necessary*. Deducing this premise, i.e., showing that it is necessary and essential to all conceivable forms of rational argument, provides (1) a useful launching pad (a starting premise) for the method of exact logic, (2) an illustration of how it works, and (3) a demonstration (logical proof) of it as well.

1. *Consistency Is Necessary*. Before deducing the premise that *in representations consistency is necessary*, consider the nature and power of the simple proposition to be proved. Jesus of Nazareth said, "But let your communication be Yea, yea; Nay, nay; for whatever is more than these cometh of evil" (Matthew 5:37).[6] In other words, "yes" should mean "yes" and "no," "no." Further, he pointed out the ultimate consequence of violating this rule of conduct: "Every kingdom divided against itself is brought to desolation and every city or house divided against itself shall not stand" (Matthew 12:25; also Mark 3:24-25 and Luke 11:17). There is little doubt that Jesus' words of condemnation were not merely uttered against the pharisaical leaders of the day, but against Satan (formerly, Lucifer) and all his followers (including, evidently, about a third part of the angels of heaven who rebelled with Lucifer; Revelation 12:4). It is interesting that the very requirement of consistency in the use of signs, spelled out so clearly by Jesus, is *the foundational premise on which the whole citadel of mathematics rests, and with it, all genuine*

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[6] All Biblical quotations are from the King James Version.

science.[7] But, sad to say, no perfect example of consistency can be found in mathematics (as yet), because no completely comprehensive mathematical system is known. Neither can perfect consistency be found in the empirical sciences where all measures are known to be intrinsically imperfect. The only logical or literary source for the absolute requirement of consistency is the Judeo-Christian God who never lies (Numbers 23:19; Titus1:2; Hebrews 6:18), and who is the same "yesterday, today, and forever" (Hebrews 13:8).

2. *Mathematics and the Sciences Depend on Consistency.* An unanswered question for all the world, therefore, is how it comes to be that all of the sciences depend—and especially the queen of sciences, mathematics itself absolutely depends—on a conception of absolute perfection that the world has never yet been able to produce. The one thing that mathematics and the sciences show with perfect clarity is that if the demand for consistency should ever be abandoned, mathematical reasoning would vanish and with it the entire province of the sciences. Here is why. The result is shown in the sort of proof required by exact logic. The purpose is both to illustrate the method in what may be the simplest of exact proofs, while at the same time launching the larger argument and exposition: The goal of mere consistency cannot be rejected in theory-building or else the theoretician comes immediately to a necessary inconsistency—a dead-end on the first move of the logico-mathematical game. *Rejecting the premise of consistency results instantly in an inconsistency. But this undesirable outcome can easily be avoided by accepting the premise that consistency is necessary. Therefore, consistency is necessary. Q.E.D.* Unless this first move is admitted, the process of reasoning cannot prosper. It cannot even take a single step. Therefore, the necessity of consistency is proved and the simplicity and power of the Peircean method of exact logic is also illustrated.

In all that follows, the purpose is both to demonstrate the logico-mathematical method of relying on nothing but "mere consistency" and to show certain of its consequences for hermeneutics in general, and for biblical studies and archaeology in particular. We proceed with an introductory discussion of what true narratives are and how they provide the material content of all possible meaningful representations. This portion of the paper aims to be didactic in its development but without compromising the method of exact logic which it both adheres to and demonstrates. As Peirce argued, every application of the method of exact logic both illustrates and proves the method. Peirce contrasted his own method with that of Hegel:

> Hegel makes a great boast of the fact that his Logic developes [Peirce's spelling] its own method. Mine pursues a rational method of which the logic itself is but the deduction and proof. Moreover I am not forced to make my book unintelligible in order to follow mine, but on the contrary it is the very procedure which perspicuity demands. Another thing; Hegel never deduces the necessity of considering what he considers before considering it; but I never introduce a distinction without having deduced the necessity for it.[8]

III. WHAT ARE TRUE NARRATIVE REPRESENTATIONS (TNRs)?

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[7] The inescapable requirement of consistency in mathematical reasoning has commonly been appealed to from ancient times as noted by L. S. Bahr and R. Johnston (eds.), *Collier's Encyclopedia* 15 (New York: Collier's, 1994) 543. It was explicitly set out as foundational by the discoverer of the calculus, G. W. Leibniz, *Discourse on Metaphysics* (reissued in English, Manchester, England: Manchester University Press, 1953 from the original German ca. 1700) 2-63; and also by C. S. Peirce in many places but see especially in volume IV of the *Collected Writings of Charles Sanders Peirce* (eds. C. Hartshorne and P. Weiss) (Cambridge, Massachusetts: Harvard University Press, 1931-1935).

[8] In "The Logic Notebook," *Writings of Charles S. Peirce: A Chronological Edition, Volume 1* (eds. M. Fisch, C. J. W. Kloesel, E. C. Moore, D. D. Roberts, L. A. Ziegler, and N. P. Atkinson) (Indianapolis: Indiana University Press, 1982) 340.

In what follows, it is proved that TNRs have certain logical properties not found in any other representations. Those properties are first proved to be unique to TNRs and thus are shown also to be crucial to the power to reason and to the very possibility of mathematical thought, and to all of the theoretical reasoning undergirding scientific observation and experimentation. In what follows, no element necessary to the definition of TNRs is introduced until its necessity is first proved.

1. *The Necessity of Meaningful Representations*. The fact that meaningful representations (Rs) exist cannot logically be denied, for to do so would require the use of meaningful Rs. To see that this argument is perfectly general and that it must be true, it is only necessary to show that the formal structure of any comprehensible statement of doubt about the existence of Rs, in all possible cases, must use meaningful Rs in order for the argument to be framed. The doubter might say, "I show by these Rs that the existence of Rs is doubtful, etc. etc." But for every such statement, no matter what additional reasons might be given, the comprehensibility of the argument depends on the use of the Rs that express the doubt. No such argument can prosper because it denies the existence of the very Rs upon which it rests. Every such argument without any possible exception violates the consistency requirement. Therefore, Rs exist. *Q.E.D.*[9]

2. *The Necessity of Bodily Objects in Space-Time*. Similarly, it is possible to show that bodily objects must be admitted to exist. For anyone to express doubt concerning the existence of material objects in space and time requires the use of Rs which are not only distinguished from each other, but which are also associated with the bodily person (or persons) expressing the doubt. Regardless whether that bodily person be one or many, his or her doubt about the existence of objects in space and time cannot be intelligibly put into Rs except he or she be associated with those Rs. But, if the Rs are attached to just one bodily person situated in space and time, as they must be, every such argument must be false by virtue of its inconsistency with the bodily object(s) it necessarily involves in its structure. Therefore, bodily objects exist in space and time. *Q.E.D.*

3. *The Necessity of Meaningful Relations Between Rs and Objects*. In addition, it can be shown that genuine spatio-temporal relations between Rs and objects in space and time cannot reasonably be doubted. Any expression of doubt concerning such relations can only be manifested by Rs that are intelligibly related both to the person (or persons) expressing the doubt and to the doubt itself (be it real or merely feigned). To express such a doubt, the person (or persons) will be obliged to say something like, "Here, in these Rs, I show that the existence of meaningful relations between Rs and objects in space and time is doubtful for the following reasons: Etc., etc." And, again, regardless how the "etc.'s" might be filled in, the case is always lost in favor of the existence of meaningful relations between Rs and objects in space and time, because the very form of every such argument against meaningful relations between Rs and bodily objects invariably embodies such relations. Therefore, meaningful relations between Rs and bodily objects in space and time are demonstrated. *Q.E.D.*

4. *Defining and Proving the Existence of TNRs*. It turns out that with the foregoing elements in hand—(1) Rs, (2) bodily objects in space and time, and (3) meaningful spatiotemporal

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[9] While this argument resembles the one given by Descartes in which he said, "*Cogito ergo sum*" (= "I think, therefore, I am") his argument introduces entities other than representations per se. It could have been made more nearly perfect if he had said, "These are representations; therefore, representations exist." However, to perfect the argument completely it is essential to show that it effectively rules out all possible counter-arguments, which is done in the exact logic proof of TNR-theory just given above.

connections between Rs and bodily objects in space and time—all the formal elements of a relatively perfect R, i.e., a true narrative representation (TNR) are proved to exist. Thus, the structure of true narrative representations (TNRs) as shown in Figure 1 is formally established. An example of a TNR can be found in *any true statement competently produced about genuine material facts competently understood by a suitably positioned observer.* But suppose someone doubts that any valid TNRs exist. To express such a doubt will require a statement along the lines, "I doubt that any TNRs exist because etc., etc." However, every such expression of doubt actually must be a TNR to the extent that it genuinely connects the doubt expressed with the person who refers to himself or herself as "I". Therefore, since no such argument can prevail against the very fact that it embodies, TNRs must be admitted to exist. *Q.E.D.*

5. *Degenerate Rs: Fictions, Errors, and Lies***.** From the structure shown in Figure 1, it is possible to define and, at the same time, prove the existence of three additional structures that are progressively more "degenerate" (i.e., less "perfect" or complete) than TNRs. These are fictions, errors, and lies (respectively, in the order of their increasing degeneracy and imperfection). But before considering those degenerate structures in more detail, we should examine the common properties of every TNR a little more closely.
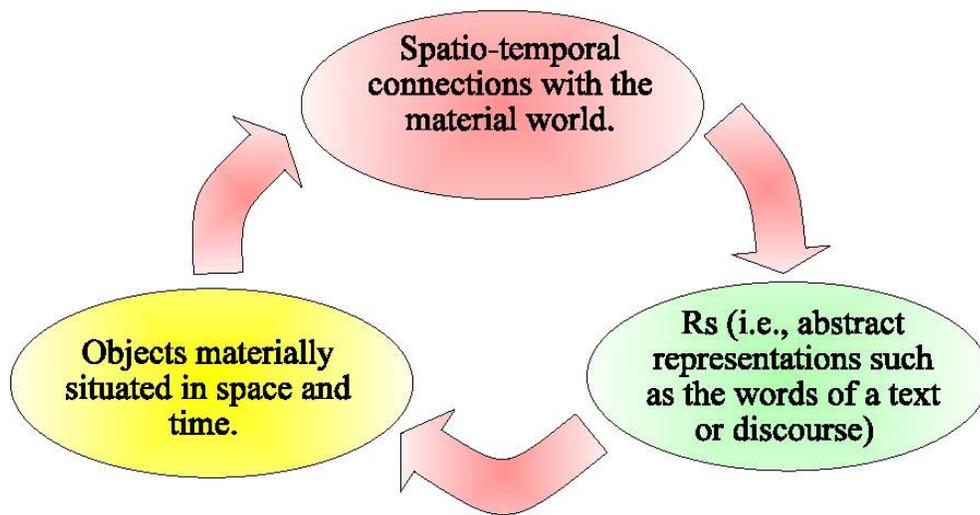
Figure 1. The three part formal structure of **every TNR**.

Every R that is consistent in its entirety with whatever facts it purports to be about, i.e., in the sense that it says nothing false of them and that they do not fail to deliver whatever it claims of them, is a TNR. Contrary to the popular claims of certain celebrated skeptics (e.g., David Hume, Bertrand Russell, Jacques Derrida, and the like) ordinary experience is chock full of TNRs. For instance, if someone reports any event, e.g., having had coffee with breakfast, provided only that the facts at hand do not conflict in any way with the claims made, the assertion qualifies as a TNR.

IV. CONSEQUENCES OF TNR-THEORY FOR BIBLICAL STUDIES

The Bible purports to be grounded in TNRs from the opening account of the creation of the universe in Genesis to the eschatological climax in Revelation. The Bible claims throughout,

from beginning to end, to be grounded in TNRs. An example of a TNR, provided only that it is true of material facts of history, is the representation in Micah 5:2 that Messiah would be born in Bethlehem. According to all accounts in the New Testament this is exactly what occurred. Now, here we stumble upon a logical consequence of the formal structure of TNRs that at first may seem unremarkable, and yet shows the transcendental, eternal character of every ordinary, commonplace, garden variety TNR along with all true reports of historical events great or small.

Suppose we ask concerning any TNR when it might cease to be true. Take the prophecy of Micah 5:2. When in the distant future will it ever be the case that Jesus was not born in Bethlehem exactly as foretold by Micah? Or, looking toward the distant past, at what point does the TNR concerning the birth of Christ ever cease to be true? Can it ever be dissociated from its material fulfillment? The answer in all such cases, no matter how many billions and billions of years (hats off to the late Carl Sagan) might be inserted between the TNR and its purported material facts, is, Never. There is never a point in time and space where any given TNR can be dissociated from the facts of which it is true. Can there be any other explanation for the New Testament statement of Jesus about the fulfillment of every jot and tittle of the Hebrew Scriptures (Matthew 5:18)?

The argument which follows in this paper shows that truth in every meaningful sense of the term must be grounded in the sort of formal structures manifested as TNRs. Saying this is getting ahead of our story, but it is useful to do so to encourage readers to persevere in following the argument all the way through.

Many other biblical texts, provided they are true historical reports, reveal all of the unique properties of TNRs. Consider the prophecy of Isaiah that Messiah would be unjustly accused, tried, and executed, and yet would "divide the spoil with the strong" (Isaiah 53:12). This prophecy was so perfectly fulfilled in the death, burial, and resurrection of Jesus Christ that naive hearers of the 53rd chapter of Isaiah routinely mistake it for a New Testament text. They naturally associate it with the events of the life of Jesus, in which the prophecy is perfectly fulfilled. Similarly, the manner of Jesus' death was prophesied by Zechariah (especially in chapters 12 and 13) in such detail that crucifixion is clearly indicated about 100 years before the first execution of that kind was ever recorded.[10] The description in Zechariah 13:7 was explicitly quoted by Jesus as a forecast of his death on the cross, showing that he took it to be a TNR relative to those specific historical events. In the same way, the description of the series of events leading up to and including the death of Christ were given in sufficient detail by David in the 22nd Psalm that secular critics of the Bible have ever after puzzled over the account given there. Jesus quoted the opening line of that Psalm in Hebrew as one of the seven recorded utterances from the cross. The terrible things described were never done to David himself according to any known historical record. Yet the descriptions are so vivid and accurate that it seems that David observed the events firsthand, or was told of them by someone else who did.

The fact that all these details were written down about a century before crucifixion was first used as a method of execution has led worldly critics of the Bible into an ever growing thicket of convoluted interpretations and absurdities in trying to make the Bible out to be a fiction and the God of Abraham, Isaac, and Jacob a liar. But, as noted in the Proverbs, no plan can succeed

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[10] M. W. Shoenberg, "Crucifixion," *Catholic Encyclopedia* 4 (1967) 485-486, writes on p. 485: "The earliest historical record of crucifixion as such dates back, on the authority of Herodotus (*Hist.*9.20), to the beginning of the Persian period (6th century B.C.)."

against the Lord, for all the reasons that it is impossible to find a consistent way to contradict the truth. As Plato explained to Agathon: "But, my dearest Agathon, it is truth which you cannot contradict; you can without any difficulty contradict Socrates."[11]

V. ACCOUNTING FOR THE FULL RANGE OF DEGENERATE REPRESENTATIONS

Having said what TNRs are, and how they are illustrated in a few biblical representations, let us move on to consider the additional degenerate structures that must be admitted on the basis of the formal structure defined and proved for TNRs.

1. _Fictions_. First, suppose the particular objects referred to by the Rs in any given case are merely imagined rather than materially present to a competent observer in space and time, the result is a fiction as shown in Figure 2. An example of a fiction can be found in any R where the arguments referred to (e.g., the purported persons, things, and events referred to) lack the material substance needed to make them perceivable to a competent bodily observer in space and time. That is, the fiction must be imagined because it is not really situated in the material space and time of any actual observer. Every fiction is merely imagined on the basis of whatever Rs its creator chooses to produce. It is clear from the structure of such an R that all fictions (i.e., all those Rs conforming to the degenerate structure in question) provide information about their purported facts only through the Rs that are employed. When Mark Twain wrote about Tom Sawyer and Huckleberry Finn if he did not choose to specify the number of logs used in building their raft, that number can never be, nor ever have been, discovered by any method of science.
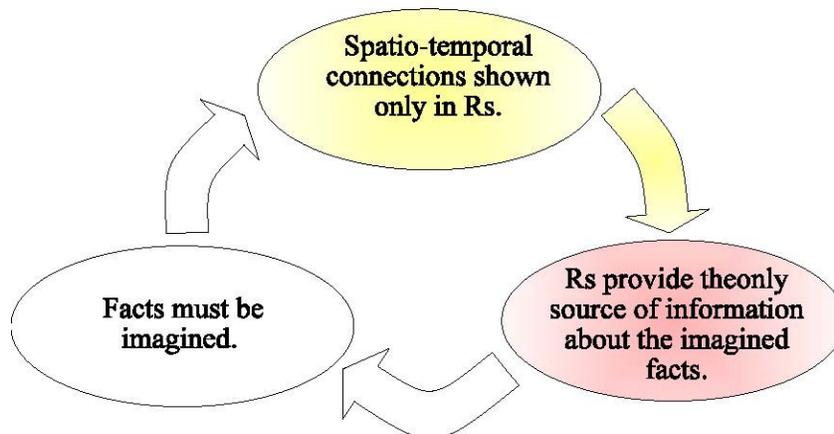
Figure 2. The formal structure of any fiction.

The Bible makes mention of fictional Rs at many points as "imaginations" and the like (Genesis 6:5; Deuteronomy 31:21; etc., Romans 1:21). For instance, the prophet Jeremiah speaks of the rebellious nation of Israel, "They say unto everyone that walketh after the imagination of his own heart, No evil shall come upon you" (23:17), and Paul wrote to the Romans, "Because that when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened" (1:21).

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[11] In Plato's _Symposium_ 201.

2. *Errors*. A still more degenerate structure will be found in what is termed an error as shown in Figure 3. Such a structure results from taking a mere fiction to be a TNR. In such a case, both the Rs and the purported facts are degenerate. That is to say, in any error the facts are not as they are represented to be. Figure 3 shows that an error involves a degeneracy beyond that of a mere fiction (as compared against the relatively perfect structure of a TNR). It shows that in an error, the factual element is not what it is imagined to be, nor is the R consistent with the facts at hand. An error, therefore, is degenerate in two of the necessary parts of the TNR structure.
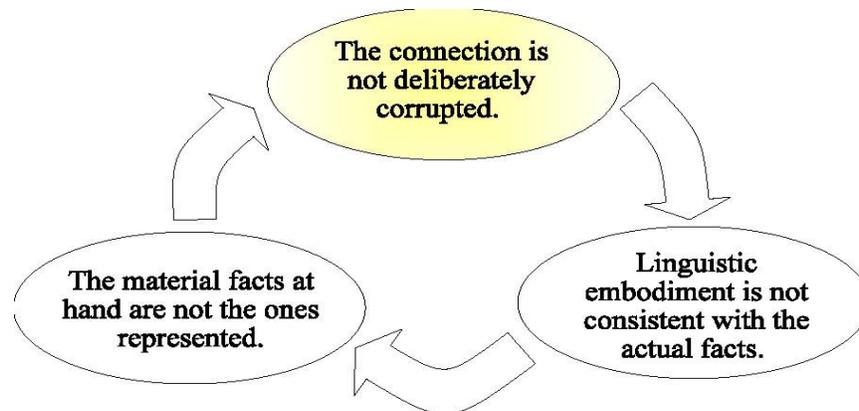

Figure 3. The formal structure of any error.

An error is a fiction that is mistaken for a TNR as shown in Figure 3. In every error, the factual element is understood incorrectly (being replaced by a fiction that is falsely believed to be genuine) and the representation of the facts actually on hand is corrupted by virtue of the R being made to conform to the imagined facts rather than the actual ones. For instance, if someone sees what appears to be a ground squirrel on a dirt road but it turns out to be a piece of cardboard turned up by a road grader, in taking it to be a ground squirrel the observer erred. The object is not a squirrel as it was imagined to be, nor is the representation of the object consistent with what it is, namely, a piece of cardboard. The imagined squirrel is a fiction, and the representation of such a fiction as true is the source of the error.

3. *Lies*. A still further degeneracy is possible because the connection between objects in space and time with Rs can be deliberately corrupted with the intention of deceiving. For instance, suppose the fiction is known to be false and yet is nonetheless deliberately and knowingly represented to be true. In the latter case, what we have is a lie. Figure 4 gives the formal structure of a lie where all three of the necessary parts of the TNR structure are corrupted. In the case of any lie, the factual element is covered over by a known fictional one, and the R is made to correspond to the known fiction, which the producer of the lie pretends to believe even though he or she knows it to be not merely a fiction, but an actual falsehood (an error). As a result, the linking between the purported facts and the representation is deliberately corrupted, and the innocent aspect of an ordinary error is replaced by a willful preference for a false R rather than a TNR. For instance, when President Clinton denied having been sexually involved with Monica Lewinski, he lied. Setting aside all the fancy language, deliberately representing facts to be other than they are is what is meant by the term lying. Between the ages of about four and twelve,

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most normal children become able to make the distinction between innocent errors and deliberate lies.[12]
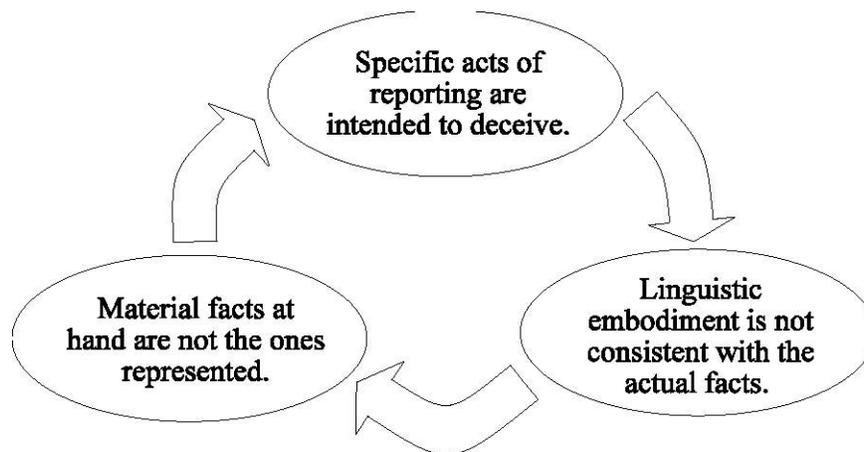

Figure 4. The formal structure of any lie.

In comparing the formal structures of TNRs with all the other structural forms that are possible, we discover that there are two major kinds of Rs, those that purport to be about particulars (Ps), which logically must include TNRs, fictions, errors, and lies, and those that purport to be general (Gs), i.e., about all or none of the possible things of a given kind. What distinguishes Ps from Gs is the fact that Ps purport to be about individual particulars (ultimately manifested in particular material entities interacting in space and time) while Gs purport to be about all instances conforming to a general description or abstract representation (e.g., to all cases of a given kind). It turns out that it is possible to prove that all Gs depend on TNRs to get any determinate particular content, and that all degenerate fictions likewise depend on Gs, and thus indirectly on TNRs which are the ultimate source of all well-determined particular meanings. This follows from the demonstration that only TNRs are determinate with respect to what they mean, connected to particular things situated in space and time, and thus generalizable to all possible cases of a given kind.

The results of such an analysis are shown in Figure 5 where the arrows suggest that all degenerate particulars and all generals must be derived from the particular meanings determined by TNRs. Summing up the proofs that the relations shown in Figure 5 actually hold, it is only necessary to show that fictions are not well-determined with respect to their material content, while TNRs are well-determined with respect to material content. In fact, this contrast follows directly from the formal structures under comparison and relies on nothing else whatever. Moreover, since Gs cannot get determinate particular meanings from degenerate particulars such as fictions (nor from errors, nor from lies), it follows that they can only get determinate particular

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[12] For a detailed analysis of how normal children progress through the hierarchy of signs leading to mature human capacity (and thus to moral responsibility) see J. W. Oller and D. Rascón, "Applying Sign Theory to Autism," *Clinical Linguistics and Phonetics* 13/2 (1999) 77-112. There is it shown in detail that the TNR-theory and its corollaries, especially the theory of abstraction which concerns how children acquire grammatical structures through TNRs, lead to a vastly more detailed analysis than heretofore of the medical mystery of autism (a mysterious disorder that leaves its victims isolated socially and strangely out of touch with the material world).

meanings from TNRs. *Q.E.D.* Thus, all of the pragmatic perfections of TNRs are proved. TNRs alone are well-determined with respect to particular material content; determinately connected to the space time continuum; and thus, generalizable. In the final analysis, fictions and all generals must get all their particular content from TNRs and nowhere else.
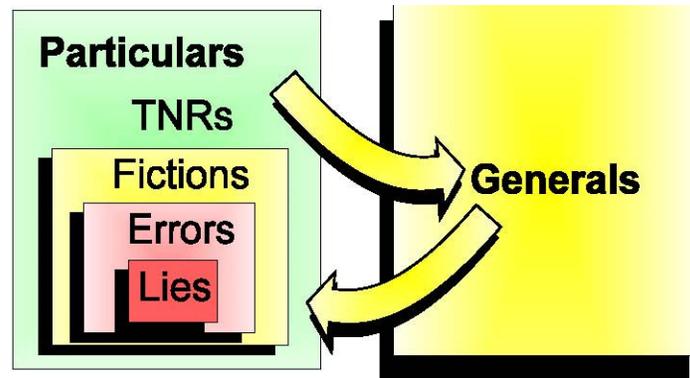
The Universe of Representations

Figure 5. TNRs as the foundational source of
meaning for generals and for fictions.

The proof hinges so completely on the distinction between Ps and Gs that it may be useful to examine that distinction more closely. At its basis, this distinction boils down to the sort of difference between a person (P) and his/her name (G), or between a certain object (P) and its description or representation (G), or between what grammarians call an "argument" (P) as distinct from a "predicate" (G). In each case, the thing that could be pointed to is a P and the abstract description of it, apart from its particularity, is always a G. For instance, in the Genesis narrative of the life of Jacob (later called Israel) we meet his son named "Joseph" who is taken to Egypt by certain Ishmaelites where he ends up in the household of Potiphar. Consider first the name "Joseph." Since this R purports to be about a particular person named "Joseph," even if the R should turn out to be a fiction, it would still purport to be about a particular fact—the particular Joseph (son of Jacob) who was taken to Egypt; therefore, the entire R is a P. The rule is that *if an R has one or more particular arguments (in the logico-grammatical sense of the term "argument"), then it is an argument and therefore is a P. If, on the other hand, a given R does not have any particular argument, it is a G.* An example of the latter would be a statement such as, "It is appointed unto man, once to die." The latter statement, if understood correctly, applies indifferently to all possible human beings—male, female, black, white, red, yellow, Europeans, Americans, Africans, literate people, illiterate ones, persons living before Christ, after Christ, children, adults, etc. Since such a representation does not require any particular argument, it is a G.

All that differentiates Ps from Gs is that Ps purport to refer to one or more particular material arguments (bodily objects or persons) that do, or can, or conceivably might, enter into relations in space and time relative to each other and to other bodily objects. It is interesting, and

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important to note that Rs purporting to be about actual pluralities—e.g., Abraham, Isaac, Jacob, and their descendants—must be Ps because they are defined by whatever Ps are involved in the plurality. This holds just the same even if all of the individual particulars have not been singled out for attention. Putting the case another way, it is impossible that any actual plurality should be made up of anything other than its particular individuals (whether these are explicitly singled out or not). Therefore, all actual pluralities are Ps, and there is no overlapping middle ground between Ps and Gs (this finding is crucial as it shows that the examination iterated above is exhaustive and covers all possible Rs in the entire universe of possible Rs). Gs are unlike pluralities in this way: while pluralities consist of Ps, Gs infinitely extend immeasurably far beyond any Ps with which they may be associated and also immeasurably far beyond any discrete plurality. No matter how large any actual plurality might become, e.g., the number of stars in the heavens or the number of grains of sand at the beach, it will still fall infinitely short of the generality attained by any G. Moreover, since particular objects are as particular as can be, and general descriptions are as general as can be, if there is no middle ground between them (as we already proved there cannot be), it follows that Ps and Gs together exhaust the universe of possible Rs. To clinch the argument for the exhaustiveness of the examination just conducted, it is only necessary to note that whatever falls outside the universe of Rs is neither P nor G and cannot represent anything at all. Thus, all meaningful Rs without exception must be either Ps or Gs.[13]

Another result of such an analysis is that all Ps turn out to be narrative representations (NRs). That is, every P is the sort of R that purports, at least, to represent an element that forms part of a sequence of events involving its argument(s) in space and time (whether real or imaginary). An NR may refer to a brief event, e.g., "Billy fell off his bicycle," or it may be longer, e.g., the Bible purports to cover all time from the creation to the end of time itself. An NR that happens to be true, or a true narrative representation (TNR), is merely one that agrees with the particular material facts that it *purports to be about and, because of its agreement with its facts, actually is about*. Thus, if the Bible is a TNR, the whole continuum of facts in space and time must accord with it because it (the Bible) covers the whole scope of history before the fall of man, until the end of time.

Also, it is important to note that the Bible claims to be a TNR depicting the complete history of God's dealing with mankind from beginning to end. If the Bible is true, therefore, being an NR, it must also be a TNR (or a degenerate fiction on a par with a colossal collection of deliberate lies). Thus, provided the text is true, there must be actual persons, places, and events that agree in all their details with whatever claims the Bible makes. For example, take the biblical story of Joseph, the son of Jacob, who was sold into slavery in Egypt. If that story is true, there must be historical places corresponding to the ones named in the story, and there must have been, at the time depicted in the story, real persons corresponding to the persons named there,

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[13] There is an interesting physical consequence of the proof that there is no middle ground between particulars and generals. Peirce showed this consequence mathematically, as discussed in *Reasoning and the Logic of Things: The Cambridge Conferences Lectures of 1898: Charles Sanders Peirce* (ed. Kenneth L. Ketner; Cambridge, Massachusetts: Harvard University Press, 1992). Einstein and Bose independently predicted a physical consequence of the missing middle ground which was empirically demonstrated for the first time by M. H. Anderson, J. R. Ensher, M. R. Matthews, C. E. Wieman, and E. A. Cornell, "Observation of Bose-Einstein condensation in a dilute atomic vapor," *Science* 269/5221 (1995) 198-201. They showed that supercooled rubidium atoms congeal into a superatom where the individual component atoms become melded together so closely as to form a perfected continuum. Thus, as Peirce showed independently by strict mathematical reasoning, in a perfected generalization (or a continuum which Peirce showed to be the same thing), the individuals become so closely associated with each other that they are no longer particulars nor distinguishable at all.

real events corresponding to the ones iterated, and so forth. None of this, of course, is the least bit surprising, nor should it be. All that TNR-theory does is to make more explicit the formal constraints on Rs that happen to be true. It merely elaborates on, by rendering explicit, the common understanding of what it means *to tell the truth.*

Summing up, if a given fiction is merely considered as a hypothetical possibility, it is only degenerate in one element of a TNR. For instance, imagine yourself on a flight to Mars. In such a fiction, only one element in the formal structure of a TNR is missing—namely, the material element (see Figure 2 above). In an error, two elements are degenerate (Figure 3 above), and in a lie, all three are degenerate (Figure 4 above). It is useful to note that every error involves a fiction that is innocently mistaken for a TNR, and every lie involves an error that is deliberately misrepresented as a TNR. Anything more degenerate than a lie tends toward the limit of uninterpretable nonsense and must, to that extent, fall outside the universe of meaningful Rs. In fact, the very existence of errors is solid empirical evidence of the existence of TNRs, because without any TNRs it is impossible to discover even one single error of any kind. Similarly, the existence of lies entails the existence of TNRs or it would be impossible for anyone ever to produce a lie. The creation of any lie whatsoever presupposes the knowledge of the TNR that it supplants with an error. The more subtle case is that of a fiction, but it too gives clear evidence of the existence of TNRs. For instance, to imagine any particular fiction is impossible in the complete absence of relevant real experiences of the TNR kind. To conjure up the modern storybook version of a unicorn, it is necessary first to know what a horse is like and what a goat horn is like. The fiction consists in bringing them together so that the horse gets a goat horn in its forehead. Even a general cannot be vested with any particular meaning apart from its basis in one or more TNRs. To know what all dogs are like, it is first necessary to have some experience with one or more dogs, or with other four-legged creatures like dogs (e.g., coyotes, wolves, and the like).

VI. THE SYNTACTIC PERFECTIONS OF TNRs

The temporal (i.e., syntactic) relations of the elements of every TNR may be shown in a generalized form as seen in Figure 6. The syntax logically involves three elements: the "Object", the "Sign-user", and the "R" (representation). The factual part of the narrative (be it simple or complex) can be construed as some arrangement of particular material entities dynamically related to each other over space and time. Let that material element of every TNR be referred to as its "Object" (as shown at the left side of Figure 6). The position occupied by the one or many competent observers who may witness and subsequently report the facts, the so-called "Sign-user" or agent of the TNR, is shown by the icon of a human observer (in the middle of Figure 6). Finally, let the term "R" stand for the manifest utterance, or written form of the discourse that determines the nature of the "Object" of the TNR. In response to the question "Who killed Goliath?" the referring term "David" is the R (or predicate) and the person named "David" is the Object (or argument) of that tern. Generalizing across all possible TNRs, let the term "Sign-user" represent any person or persons who may produce or understand any given TNR.

In any well-formed TNR, the basis for a distinction between particulars and generals is immediately apparent. It is clear that the "Object" of any TNR must consist ultimately of one or more particular objects situated in space and time and that the "R" must itself be a general sign that might be used to refer to any particular like the one at hand. The act of the "Sign-user", by contrast can be shown to be intermediate between the "Object" on the one hand and the "R" on

the other; partly particular and partly general. The surface-form of the R is produced by the observer to point to the object, but the material content of the R depends on the independent existence of the "Object". However, since any G that has a P connected with it is a P, it follows that every TNR is a P in spite of the fact that it contains a generalizable R.
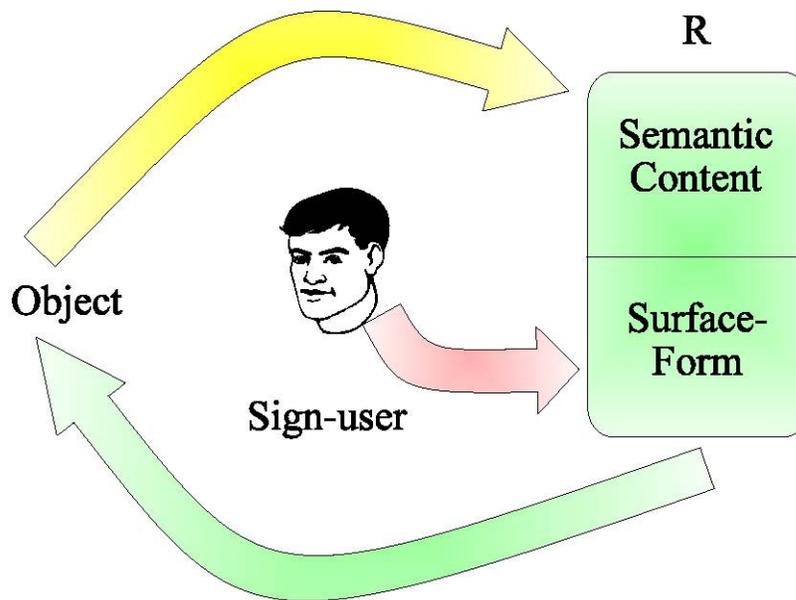

Figure 6. Another view of the formal structure of the TNR.

Three remarkable syntactic perfections of TNRs follow from the syntactic (space-time) relations shown between the material forms of Figure 6. The only source for the semantic content of the R is its generalized "Object"; the only source for the surface form of the R (in any TNR) is the generalized "Sign-user"; and the only source for the determination of the particular "Object" in question is the generalized "R" itself. Each of the latter propositions can be strictly proved and leads to the surprising discovery of what may be called the syntactic perfections of every TNR. These peculiar syntactic relations may be called alpha (α), beta (β), and omega (ω) and are well-formed only in TNRs. This is demonstrated immediately by the dual fact that only TNRs pertain to particular material facts by virtue of their pragmatic perfections, and that particular facts are crucial to all three of the syntactic perfections. That is, some particular object is required for α, a Sign-user for β, and an R for ω. Thus, *fictions and generals must lack the syntactic perfections because none of them possesses the articulate connection between the material particulars of a TNR. Q.E.D.*

Next, consider the nature of the syntactic perfections one by one. Take first the α relation pictured in the top arrow of Figure 6. We can prove for every TNR (and thus for every collection of TNRs) that every bit of valid semantic content of the sign (the top half of the R shown in Figure 6) must be contributed only by the Object to which the sign relates. No separate meaning can be contributed by the sign itself, not even by the Sign-user. The proof begins with the premise that at least whatever content is validly found in the object of a TNR must be a valid source for whatever valid semantic content may be found in its R. Next we ask if there can be

any other source of valid semantic content for R. Clearly, if there were another source, say in any Object distinct from the particular one associated with the R, it would be necessary to compare the two distinct objects to see if the content of that other object was present in the one at hand. If so, the content would be valid in the R, otherwise not. However, since the second object must be compared with the first to determine whether or not the second can validly contribute content to the R, we can see that *only the particular material object of the R can determine any of its valid semantic content. Q.E.D.*

Next we come to the β perfection. In a manner very similar to the immediately preceding proof concerning the α relation, we can show that only Sign-users can contribute to the surface-form of any R. From the fact that the surface-form of every R is owed to the generalized act of the Sign-user it follows that whatever act such a Sign-user may perform in shaping the R must be a valid contributor to that surface-form (the bottom half of R in Figure 6). But suppose there were some other influence(s) that might shape the form of the sign (e.g., a cleft-palate, a loud noise, a barking dog, the social isolation of autism, or what-have-you). Clearly, that other influence would either have to conform or not to the act of the generalized Sign-user, i.e., the entire community of Sign-users who apply the R relative to such objects as are found in the TNR at issue. If the surface-form should conform to such uses, it would not change the generally applied form of R, and if it did not conform, it could only distort the form of R. However, since only the act of the Sign-user can determine whether or not some other act conforms to itself, *only the act of the Sign-user can determine the surface-form of the R and the remarkable uniqueness of the β perfection is demonstrated. Q.E.D.*

Finally, we come to the ω perfection. It is called that because it is at a kind of ultimate limit for any determinate meaning of any TNR. The ω perfection also entails the fact that the content of any material object (including any conceivable particular facts up to the whole of the universe throughout its history) can only be determined by Rs that are true of that Object. This is proved in the same manner as in the cases of the α and β perfections. First, it is certain that the content of any material Object is validly determined to the extent that it is validly represented in a TNR. Further, any R cannot determine the content of any material Object of which it is invalid. Therefore, *only a valid R can determine, exactly to the extent of its validity and no farther, any content whatever of any material Object. Q.E.D.*

VII. THE SEMANTIC PERFECTIONS OF TNRs

There are also three semantic perfections uniquely associated with TNRs and no other Rs whatsoever. These are designated by the first, second, and last letters of the Hebrew alphabet. The aleph (א), or first semantic perfection consists of the regular or conventional determination of some particular *material content* through correct abductive association of the particular content with general Rs. The bet (ב), or second semantic perfection, consists of the inductive association of particular material content of the past experience of one or more *particular sign users* with subsequent experience of either the same or other Sign-users through the inductive generalization of the Rs in question. And, finally, the tav (ת), or last semantic perfection, consists of the regular or *conventional association of particular Rs* (of distinct form) with particular material content through deductive generalization of the meaning of those signs so as to apply them appropriately to their particular material content in the TNR. These semantic perfections can be seen as distinct phases of any TNR as generalized historically and actually over particular material space-time contexts by particular sign communities. The א phase entails both the ב and ת

phases, which is unique to TNRs on account of the fact that each of them incorporates all three of the pragmatic perfections, together with all three of the syntactic perfections previously proved to be unique to TNRs. These entailments are assured by virtue of the demonstrations previously supplied showing that no fiction, error, lie, or mere general contains any particular material content not supplied by a TNR. But, each of the syntactic perfections, and by implication each of the semantic perfections, requires determinate material content. As a result, *the three semantic perfections are unique to TNRs. Q.E.D.*

VIII. GENERAL CONSEQUENCES OF THE LOGICAL PERFECTIONS OF TNRs

Among the general consequences—that apply to general hermeneutics (the general interpretation of all possible Rs)—of the discovery of the unique logical perfections of TNRs are the following:

(1) TNRs are potentially infinite in number (there must be as many TNRs as there are vantage points of competent observers). This result was fully anticipated at the conclusion of John's Gospel where he wrote: "And there are many other things which Jesus did, the which, if they should be written every one, I suppose that even the world itself could not contain the books that should be written" (John 21:25). It also follows that all TNRs must ultimately agree with each other. At any rate, they cannot, in the final analysis, disagree with each other. This follows from the fact that TNRs are connected to the same material space-time continuum, and they cannot conflict with it or else they would be untrue. Upon this principle, the law of evidence hangs by the slender thread of truthful discourse,[14] and yet, because all the strands of TNRs are joined together, the fabric of truth is unbreakable, infinitely rich, and perfectly continuous. Even if the material space-time continuum should turn out to be quite unpredictable in many respects (as suggested by quantum mechanics, Heisenberg's celebrated "uncertainty principle," and as implied by the Apostle Paul in Romans 8:22 where he speaks of the whole creation being under the curse of sin), TNRs must still remain consistent with each other, and God can know all the details pertaining to the whole continuum by simply looking ahead at material outcomes.[15] There is no inconsistency in the supposition that God knows all of the details of events in a world gone wrong, where God's laws are commonly disregarded in the exercise of man's free will, and, evidently, even in the capricious behavior of subatomic particles.[16]

(2) Another logical result of TNR-theory is that because material objects are connected by material forces in space and time, perception is possible just in case the physiology of the perceiver is actually tuned to the nature of events in the material world.[17]

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[14] For a valuable exposition showing, in effect, that the entire "Law of Evidence" hangs on the special properties of TNRs, see S. Greenleaf, *A Treatise on the Law of Evidence* (Holmes, Florida: Gaunt, Inc., reissued in 1997).

[15] In fact, a series of proofs derived from TNR-theory have been presented by Oller showing that the long-standing supposed paradox between determinacy and free will was always illusory. In particular, determinacy has been greatly overrated. See "Semiotic Theory Applied to Free Will, Relativity, and Determinacy: Or Why the Unified Field Theory Sought by Einstein Could Not Be Found," *Semiotica* 108 3/4 (1996) 199-244. More importantly, God's foreknowledge does not conflict with free will unless God chooses to intervene in the life of an individual and even then, God's foreknowledge of evil done by others never results in God doing the evil anymore than a person's knowing the outcome of a story makes that person the cause of that outcome.

[16] In fact, it has been demonstrated that without the kind of indeterminacy observed in subatomic particles, free will could not exist. Oller, Ibid.

[17] This fact was used by C. S. Peirce in an argument that he referred to as a "Neglected Proof of the Existence of God" *Collected Papers of Charles Sanders Peirce* (eds. Charles Hartshorne and Paul Weiss) (Cambridge, Massachusetts: Harvard University Press, 1935), 311-339. In a somewhat different context, the same article by Peirce is referenced in the pages of this journal by T.

(3) Scientific inference is possible owed to real connections between the past and the future through the present experience of competent observers.

And, finally, (4) mathematical reasoning (strict deduction) is possible on account of fact that TNRs enable general signs (including numbers and logical relations such as equal to, greater than, etc.) to be vested with particular meanings.

IX. GENERAL IMPLICATIONS APPLIED TO BIBLICAL STUDIES AND ARCHAEOLOGY

Through TNR-theory it is proved beyond any reasonable possibility of doubt (and "reasonable" is the operative term), that perception itself, experimentation, and any kind of mathematical reasoning would vanish if there were no TNRs. Of crucial importance to hermeneutical studies is that all of the unique properties of TNRs are perfectly general and strictly formal—that is, they are intrinsic to the necessary structure of TNRs and they apply to all TNRs without exception. It is because of such formal properties that TNRs enable certain kinds of valid inference. Although the development of TNR-theory does *not* depend in any way on the identification of any *particular* TNR whatsoever, the fact that TNRs must exist cannot be reasonably denied, as was demonstrated above in a perfectly general way. Therefore, it is not possible that the universe could be devoid of TNRs. As a result, it can be inferred that valid inferences must be possible.

Owing to their determinacy relative to particular facts, along with their connectedness to the matter-space-time continuum, *it is not possible that genuine TNRs should disagree in any of their parts or with each other*. Moreover, this *necessary consistency*, which is found only in TNRs, is the only basis, ultimately, upon which valid inferences can ever be drawn anywhere. In TNRs the purport cannot disagree with the facts, nor can facts disagree with the purport, nor can any other inconsistency arise. Further, to the extent that the material space-time continuum may be connected and consistent in its parts, TNRs must also be connected and consistent with each other. As a result, the valid kinds of inference that are possible are themselves grounded in TNRs. However, the same principles of inference apply loosely to fictions as well. More explicitly, they apply to all fictions just exactly to the extent that those fictions resemble TNRs. But all fictions must resemble TNRs or become utter nonsense, so the principles of inference must be loosely applicable to all comprehensible fictions. In fact, we find that there are three main kinds of inference dependent on TNRs.

First, *deduction is possible*. Deductive inferences can be drawn from the general Rs about the objects, events, and relations that TNRs are about. For instance, if Joseph was sold into slavery and carried off to Egypt, it follows that he did not go down to Egypt of his own free will. Similarly, if Joseph did not rape Potiphar's wife, she lied when she said that he did. And so forth. Such deductions follow directly from abstract meanings, i.e., from definitions, normally associated with certain words and concepts in TNRs. From TNRs themselves, a great many secure deductions can be inferred, but, oddly, owing to the nature of the matter-time-space continuum, no secure deductions can be drawn directly from it. This is strictly proved in the logical perfections of TNRs. Unless material objects become associated with TNRs (by being represented), in and of themselves, they can determine no general meanings whatsoever.

To illustrate the fact at hand, we may recall the old comedy routine where Richard Prior was

C. Muck, "Is There a Common Ground Among Religions," *JETS* 40/1 (1997) 99-112. Peirce's and Muck's point, however, are essentially the same as our own in the final analysis: the very existence of perceptual processes points us to God.

supposedly caught in a compromising act by his wife. He said, "Who ya gonna believe? Me? Or your lyin' eyes?" His joke could have been made a little more extreme if instead of "lyin' eyes" he had said "these lyin' facts." It is just barely possible that our eyes might deceive us, as in illusions, hallucinations, and the like. But it is not possible for material facts involving objects, events, and relations in space-time to be anything other than they are. They can change owing to the forces exerted upon them by God, men, or other objects, but they cannot deceive or lie. Nor can they be the least inconsistent with themselves or with other facts of the space-time continuum. In fact, until they come to be represented in TNRs, particular facts have no distinguishable particularity. They are unbounded and indistinct parts of the material space-time continuum.

Of course, some facts change more quickly than others. Though flowers come and go, persons live and die, and streams rush quickly to the sea, such material objects as mountains, stones, and potsherds seem to endure and hold their positions for longer durations of time relative to each other and mortal observers. As a result, deductive inferences can be drawn from the biblical texts that once held true of certain objects, events, and topographies. However, no deduction whatever is possible in the reverse direction owing to the powerlessness of brute forces of matter and energy to come stamped with dates, times, and any other abstract descriptions. Even artifacts such as clay pots and buildings made of bricks and mortar do not always have inscriptions in a particular language. Without an intelligent perceiver/representer to parse up the facts of experience through the powers conveyed in TNRs, raw facts form an unmarked continuum of matter/energy-space-time. No part of that material continuum can disjoin and differentiate itself, of its own accord, from any other part. For instance, if a TNR says or necessarily implies that a certain gate is on the north side of a fortified city in Canaan within a brief march of Jericho; that it is situated at the top of a hill; that it overlooks a shallow valley; that behind it to the west is a valley deep enough to hide a large band of troops; that to the east lies a certain other city; etc., then valid archaeology will either find a site conforming to these requirements, or it will have to keep its peace.[18] Valid science is utterly dependent on the existence of TNRs, but the reverse does not hold. There is no conceivable method of archaeology that could turn up the site of Ai without reference to any TNRs, nor could any conceivable method be trumped up to test the biblical text of Joshua 7:1-8:29 without prior reference to that text in order to define the required nature of the tests to be applied.

The generalizability perfection, together with the ω and ת perfections, is such that it guarantees that there can be no determinacy whatsoever anywhere in the material world apart from TNRs. The upshot of this finding for biblical archaeology (provided only that the Bible is true) is that biblical archaeology is, on the whole, and in its details, utterly dependent on the Bible.[19] If the Bible is a TNR, rather than the veracity of the Bible being dependent on archaeology as some have ignorantly claimed or implied,[20] Biblical archaeology is utterly

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[18] See P. Briggs, "Testing the factuality of the conquest of Ai narrative in the book of Joshua" (paper presented to the Near East Archaeological Society 1997); Also, Briggs is presently writing a dissertation applying TNR-theory to the archaeological controversies surrounding the Ai narrative in Joshua 7-8.

[19] Ibid.

[20] For instance, see W. Keller, *The Bible as History* (New York: Hodder and Stoughton, second revised edition 1980) and his references. In effect, Keller takes the standard approach of assuming that the Biblical texts are subject to archaeology rather than the reverse. He is not wrong in supposing that if the text is true the archaeology must conform to it, but he is demonstrably wrong in supposing that archaeology is needed to confirm it if it is true. The only way Keller's approach makes sense is if the Biblical texts may actually turn up false. But even in that case, archaeology would be an inadequate basis for showing the text to be false

dependent on the Biblical texts. Even if some particular version of the Bible should contain some error, it would not be possible to show up this error as such merely by reference to physical evidences or archaeological artifacts. On the contrary, the Rs of the Bible would have to be brought into play and applied as intended by the original author(s). Moreover, owing to the fact that the Bible claims to cover the whole of history, no error can be consistent with the whole of it because no error is consistent with the whole of space-time continuum. That is to say, TNR-theory requires that TNRs be internally consistent within themselves and externally consistent with the material space-time continuum and thus with other TNRs.

A second kind of inference justified by TNRs is *induction*. Inferences of this kind can be drawn about events prior to or subsequent to the one or ones called to mind as an intelligent consumer progresses through a TNR. These inferences do not enjoy the nearly perfect certainty associated with deductive inferences, but just as it is strictly proved with reference to the ω perfection of TNRs, inductive inference is dependent on the connectedness perfection. For instance, if we suppose that Joseph must have wept on the way to Egypt, we draw a probable inductive inference owing to the fact that unjust treatment, separation from loved ones, and enslavement usually leads to misery and the latter often leads to weeping. Such an inference is not absolutely guaranteed to be correct, but can be judged as more or less likely. Moreover, study of the Genesis record does reveal an episode of such weeping at another time when Joseph reveals his identity to his brothers after he has become the "Ruler of All Egypt" (Genesis 45:2).

A third kind of inference is what Peirce eventually came to call *abduction*. Inferences of this kind depend on valid perceptions (a special kind of TNR) and are less reliable than either deduction or induction. However, TNR-theory shows conclusively in the determinacy perfection, the α perfection, and the $\aleph$ perfection, that the only possible source of valid material content for any induction or deduction is the sort of abductive inference grounded in perceptual experience of the material world of space and time. While believers in God must grant that he can perceive material events, aside from revelation by God or communication with other spirits in the know, there is ultimately no other source for information about the material world besides perception (as far as is known and as is strictly demonstrated by TNR-theory).

X. TESTING DEDUCTIONS FROM TNR-THEORY AGAINST THE BIBLE

Based on the foregoing kinds of inference, many deductions from TNR-theory can be tested against biblical teaching. Three are considered. First, there is the demand for bodily form in any conceivable representation that follows from the determinacy, α, and $\aleph$ perfections of TNRs. TNR-theory shows that no meaning can be fully determined until and unless it is embodied. Strictly applied, therefore, TNR-theory suggests that God himself requires a bodily form. This bold inference contradicts the Judaic insistence that God has no body. However, the inference from TNR-theory is consistent with a conservative understanding of Judeo-Christian theology.[21] To reveal himself to us, the Bible teaches that God prepared himself a body in the person of Jesus Christ (Hebrews 10:5)—who is "the brightness of his glory and the express image of his

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even if it were indeed false. Archaeology must ultimately accord with a coherent interpretation of whatever written records happen to be true, or else the association of any given bit of archaeological evidence with any given text is no different from mere imagination—pure fiction.

[21] For an example of the application of TNR-theory to the biblical conception of the trinitarian nature of persons, see D. Swihart, *The Monistic v. Dichotomic v. Trichotomic Discussion on the Constitution of the Human Being in the Light of Biblical Semiotics* (Albuquerque: Ph.D. dissertation, Trinity Theological Seminary, 1995).

person, and upholding all things by the word of his power" (Hebrews 1:3). Moreover, in John 1:18 we read, "No man hath seen God at any time: the only begotten Son which is in the bosom of the Father, he hath declared him." As God's glory is manifested in the heavens, God's grace is revealed on earth in the death, burial, and bodily resurrection of Jesus Christ. The Bible requires embodiment of the word of God, without which the universe itself would be nothing. Though David wrote that "the heavens declare the glory of God" (Psalm 19), even the skies require the heavenly bodies with which to manifest God's glory—the work of the Creator identified as Jesus Christ, the Son of God (John 1:1-3).

A second inference that can be drawn directly from the connectedness, β, and ב perfections of TNRs, is that TNRs can only become known to observer/interpreters by being actively presented to them. Without such active presentation, there can be no comprehension. Does the Bible support this inference? In fact, it does in what Paul referred to as "the foolishness of preaching [proclamation]"(1 Corinthians 1:21, 25). Why does God himself mandate this method of presenting his message (Romans 10:17)? TNR-theory shows that no embodiment can have any genuinely knowable substance or meaning to bodily observers except it also be historically revealed, i.e., materially manifested and connected to space and time. In John 14:6 Jesus says, "No man cometh unto the Father except by me." Hebrews 1:3 refers to Jesus as the perfect image of God: "…being the brightness of his glory, and the express image of his person, and upholding all things by the word of his power." The whole of the biblical text agrees with the doctrine that God himself actively came into the world in a bodily form to be known by human beings in the form of a man. Moreover, the knowledge of this truth is manifested through the active presentation of the word of God. Paul quoted Isaiah 53:1, "Lord, who hath believed our report?" and went on to explain that "faith cometh by hearing and hearing by the word of God" (Romans 10:16-17).

The Bible clearly teaches that God is known only through the bodily appearances of Jesus Christ, and the proclamation of the word relative to those bodily appearances. Paul wrote, "For other foundation can no man lay than that is laid, which is Jesus Christ" and neither can *that* one be laid except by the declaration of the word. Without the revelations contained beforehand in the prophecies of the Hebrew Scriptures, the birth of Jesus, his life, and death would have been unremarkable, and his resurrection totally unexpected and unaccounted for. Thus, the biblical text, provided it is true, really is linked to space-time forever through the historical appearance of the Messiah. Moreover, if the Bible is a TNR, it must be true right down to the last jot and tittle in its agreement with historical facts. Though the whole of the continuum is to be renewed (Revelation 21:1), yet not the tiniest part of the Bible (assuming it to be a TNR) can ever become the least bit untrue.

A third test comes from the clear requirement of TNR-theory that embodied meanings can only be interpreted relative to abstract conventional Rs, i.e., to words, phrases, and sequences thereof intelligibly set in correspondence with facts. This deduction follows from the generalizability, ω, and ת perfections of TNRs. From them it follows that no object can have any meaning apart from its historical association with symbols that interpret it as an embodied meaning. This fact necessarily involves interpreters always in a slight risk, an act of faith. But that risk is necessary and exactly sufficient to provide for the requirement of free will.[22] In fact,

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[22] This result is logically derived from TNR-theory in Oller, "Semiotic Theory Applied to Free Will, Relativity, and Determinacy: Or Why the Unified Field Theory Sought by Einstein Could Not Be Found" (as cited above in note 15).

no determination of any meaning can be achieved without the chance of error that comes with applying Rs to embodied facts. This holds because any embodiment that is not represented, by itself, determines nothing. Does the tree really fall (or stand) in the forest when no one perceives it? Perhaps, but without TNRs such questions are as indeterminate as whether an electron will be found in its expected orbital or somewhere else. Unrepresented facts, from the vantage-point of any observer, are indistinguishable from mere possibilities. Until they come to be represented in TNRs, they are not distinguishable from non-existent fictions. Hence, the embodiment without its being represented comes to nothing determinate. It is merely part of the grand but indistinct continuum of matter in space and time. Is this finding consistent with the Bible? It appears to be inasmuch as the Bible teaches that in the beginning (the Alpha) and end (the Omega) *is* the Logos, not the cosmos. Hence, eternal determination of meaning is not accomplished strictly by material things, but rather by the word of God. In fact, the Bible teaches just about the exact opposite of material philosophies. Instead of matter determining Rs, it is the Rs that determine the matter, and without which the matter itself could not ultimately have any determinate being whatsoever.

Many other biblical tests can be applied to TNR-theory, but, if the Bible is a TNR, it cannot contradict itself nor will it contradict other TNRs. Consistent with this observation is the teaching of Scripture that if we draw near to God, he will draw near to us (Zechariah 1:3; James 4:8).

XI. DECONSTRUCTIONISM REJECTED

On the other hand, TNR-theory provides no sanctuary for skeptical theories of "deconstructionism" in any of its varieties, including "postmodernism," "poststructuralism" and the like, as applied by "the Jesus Seminar," etc. TNR-theory shows all these schools of thought to be false in the manner of self-contradictory absurdities. If there is a central claim to be identified among all of the popular brands of skepticism, it is the idea that truth and fiction are on a par. This idea is absurd. It is exactly like claiming that a dream has all the same reality as an actual sequence of material events. Structurally the difference between a TNR and a fiction can be made perfectly clear in terms of form alone. The idea that truth can be accounted for by theories grounded in fictions is therefore shown to be hopelessly false. What is more, and all the more devastating to the would-be haven of skepticism, is that no single TNR needs to be identified in order to refute and show even the mildest variants of skepticism to be absurd. The proofs of TNR-theory can be put forward without reference to anything more than the logical form of Rs.

Literally thousands of statements could be cited from proponents of one school or another of deconstructionism supporting the absurd falsehood that truth and fiction are on a par.[23] The learned skeptics have many different ways of arguing their case and are prone to inconsistencies at every turn. This cannot surprise anyone who has found that "deconstructionists," for example, begin by denying that any two interpretations can ever be the same, by denying that truth can

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[23] A citation search of the name "Derrida, J" on the full Webofscience on April 4, 1999 turned up 16,820 separate references. Also see R. McQuilkin and B. Mullen, "The Impact of Postmodern Thinking on Evangelical Hermeneutics," *JETS* 40/1 (1997) 69-82. On the whole the results of TNR-theory accord very closely with the conclusions of McQuilkin and Mullen. A fine point of clarification is that God's word is (according to TNR-theory) not made true (if it is true) by its "correspondence" to an external "reality", but rather, reality itself depends upon God's word. Otherwise, TNR-theory also accords with the reading of the Biblical conception of "truth" as laid out by W. J. Larkin, *Culture and Biblical Hermeneutics: Interpreting and Applying the Authoritative Word in a Relativistic Age* (Grand Rapids: Baker, 1988).

ever be known, by denying that whatever they said was correctly understood even by themselves, by claiming that we can never really communicate, and so on and so forth. It is difficult to pin down any particular claim of the deconstructionists because they praise complexity, obfuscation, and entanglements. They boast openly that they thrive on paradoxes and contradictions.

The essence of the absurdity of the postmodern outlook as a philosophy is shown in the necessary conclusion that scholars really cannot understand each other at all. The logical absurdity of this assertion can be shown equally well in either of the two possible responses that the assertion invites: The respondent may say, "Ah! I can see exactly what you mean!" Or, the respondent may say, "I'm not sure I see what you mean." Either way, the intrinsic absurdity of the deconstructionists' position is shown. If the assertion that we cannot understand each other is understood, it must be false by being self-contradictory and is therefore absurdly false. If the assertion is incomprehensible, however, then it is absurd to assert it, and therefore the assertion, if true, is nonetheless absurd. Either way, it is absurd. But suppose the statement were of indeterminate meaning as it suggests all attempts at communication must be. It would still be absurd on account of its pretense to be true. This follows on account of the fact that true assertions cannot be meaningless and still be judged to be true by any intelligent person. As a result, deconstructionism is ultimately absurd any way you slice it.

The person most often credited with inventing "deconstructionism" (alias "postmodernism") etc., is Jacques Derrida. In his "Des Tours de Babel" he quotes Voltaire's *Dictionnaire Philosophique* where the celebrated atheist wrote:

> I do not know why it is said in *Genesis* that Babel signifies confusion, for *Ba* signifies father in the Oriental tongues, and *Bel* signifies God; Babel signifies the city of God, the holy city.[24]

Why should it trouble Derrida that "Bel" is unquestionably the demon god "Baal" also referred to as "Beelzebub" in the New Testament. If truth and fiction are strictly on a par, then, Derrida is perfectly within his rights to conclude: "God, the God, would have marked with his patronym a communal space, that city where understanding is no longer possible" (p. 4).

And, of course, if understanding itself has been abolished in the very city of God (according to Derrida and Voltaire), who can contradict any absurdity? If all statements are on a par, then the difference between science and literary criticism is nonsense. In fact, the very possibility of any distinction whatever between truth and falsehood has been abolished along with any possibility of comprehension.

At the conclusion of his article, Derrida recommends that instead of reading the biblical text itself (or any text for that matter), it is necessary to read "between the lines" and "in the margins" because, he contends, "the interlinear version of the sacred text is the model or ideal of all translation."[25] But to say this is to imply that there are no historical facts to distinguish any TNR (any true story, such as the Bible purports to be) from fictions, errors, and lies. Setting to one side the question of the historicity of the Bible, TNR-theory nonetheless shows why we cannot reasonably deny that there are certain historical facts that distinguish themselves from mere fictions. TNR-theory also shows why relatively perfect translation of TNRs is attainable. If the

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[24] The quotation is from page 4 of J. Derrida, "Des Tours de Babel: Poststructuralism as Exegesis," *Semeia* (tr. J. F. Graham, eds. D. Jobling and S. D. Moore) (Atlanta: Society of Biblical Literature, Scholars Press, 1992) 3-34.

[25] Ibid, p. 33.

surface-forms are arbitrary (supplied by communities of Sign-users), and if the material content of meaningful signs comes exclusively from material facts in space and time, then TNRs are not at all dependent on the mere surface-forms of signs nor upon the cultural additions that may be contributed by sign-using communities (per the β perfection of TNRs). Therefore, perfect comprehension of TNRs, communication, and translation, logically speaking, *must be* possible regardless how difficult it may be to achieve in practice.[26]

XII. CONCLUSIONS

As a result of the proofs discussed here and elsewhere—referred to collectively as TNR-theory—many consequences follow. Some of these are of central interest to the sciences. For example, in applying the method of exact logic it has been demonstrated that all relations, including dynamic cause-effect relations as special cases, and all notions concerning the nature of continua (of space-time, for instance) are utterly dependent, first, on the presumption of the existence of TNRs, and second, on the generalizability of TNRs.[27] For instance, suppose the firing of a bullet in a certain direction is observed to produce a bullet-shaped hole in a tin can lying in the path of the bullet. Or, suppose the striking of a cue ball with a cue stick on a pool table appears to propel the cue ball along a certain line of motion, or that the impact of a particle (or cloud of them) is observed to have a certain observable effect on a photographic plate. To infer that the first object, call it A, caused the observed effect, call it C, in the second object, call it B, one or more TNRs are required. But suppose some scientist wishes to go further to describe the trajectory followed by A to B. It comes out by a strict examination that the inference to the connections between causes and effects, or between the infinitude of theoretical points that lie along any continuum of any kind, requires one or more TNRs to define the continuum.

Conversely, if there is a Riemannian/Einsteinian continuum of matter/energy-spacetime in which we find our bodies on the earth, in its solar system, within the galaxy, and within the greater universe, it follows that, whatever TNRs there may be, they must be connected to each other. As a result, any given TNR can, in an important sense, be tested against countless others that either have been formed in the past or that are being or will be formed relative to whatever portion of the space-time continuum is implicated by any other TNR. For instance, any true story told of events that actually occurred in any given portion of matter/energy-space-time that referred to prominent landmarks within that portion, can be tested against enduring physical characteristics (e.g., historical and geological events as well as geographical, linguistic, and archaeological features) of the temporal-topographical vicinity itself. Therefore, TNR-theory has important implications for the investigation of historical events. Likewise, and for the same reasons, TNR-theory has bearing on the interpretation of any text that purports to be grounded in material events and relations, even though the facts in question may be in the distant past; hence, the relevance of TNR-theory to biblical archaeology.

TNR-theory proves that no text or R of any kind is exempt from dependency on TNRs for its meaning, and no TNR can fail to exhibit the perfections necessarily associated with all TNRs and

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[26] In fact, ther is reason to suppose that nearly perfect translation can be attained in practice as empirically demonstrated in a tightly counterbalanced experimental comparison of cross-translated narratives in English and Mandarin Chinese. See Suyi Xiao and J. W. Oller, Jr., "Can Relatively Perfect Translation between English and Chinese Be Achieved?" *Language Testing* 11 (1994) 267-289.

[27] In "Semiotic Theory Applied to Free Will . . ." (as cited above in note 15) the first author has strictly proved that causality cannot be illustrated or defined without appeal to TNRs.

with them alone. For the same reasons, no fictional story can possibly live up to the most obvious requirements on TNRs. Thus, the door is opened to many strictly logical, empirical, and historical tests of the veracity of any discourse or text that claims to be true in any of its particulars. If TNR-theory is correct, it is possible, as a result, to set hermeneutics, and biblical archaeology as well, on a strictly logical footing. Moreover, it is clear why this could not have been done prior to the development of TNR-theory, and, therefore, why it is necessary to re-examine prior systems of hermeneutics. None of those, with the possible exception of deconstructionism, have even attempted to achieve perfect generality so far as we know, but TNR-theory has been strictly proved to be applicable to all possible Rs. Therefore, if it is true, on account of its comprehensive scope (applying to all possible Rs), TNR-theory logically must be superior to its potential competitors. The application to hermeneutics is made all the more relevant in the present-day owing to the fact that many theoreticians, especially the "deconstructionists" et al., have been arguing that *all representations are on a par with fictions*. All of the foregoing proofs show why the latter proposition is absurdly false.