Does Yahweh Play Dice with the Torah?

Or: And Out of His Mouth Went a Fiery Packet of Discrete Energy

Karl Hand, United Theological College, Charles Sturt University

This article raises the question of whether the meaningful interplay between the physical and mental aspects of speaking and writing, and the observer-conditionality of the aspects might be a starting point for overcoming some of the dichotomies of contemporary biblical research including the synchronic diachronic disctinction, and the divergence of historical and theological readings of texts.

The study of art and the study of ourselves are ultimately a single enterprise. (Bleich 1975, 755)

1. INTRODUCTION

When scientific or historical information is placed in a dynamic relationship with synchronic, theological factors, not only is the theological/scientific dichotomy overcome in the fusion of fact and meaning, but the knowing subject is given agency in the creation of meaning. It is not an *ad hoc* agency, such as is seen in more extreme kinds of post-structural readings, because it is not an agency which asserts itself wilfully. It is rather the agency of a subjectivity which cannot be banished from the process of making meaning. This subjectivity, as I shall flesh out below, creates meaning from the smallest to the largest parts of the text it apprehends: it is the subjectivity which turns ink marks into graphemes, graphemes into lexemes, lexemes into syntax, and syntax into discourse. Historical and scientific inquiry in New Testament studies (for instance), being done by a disciple about the Teacher, when done with an awareness of the subjectivity of a reader, is in effect, a "quantum" biblical science.

Let me explain in more detail. Scientific method, conceived of by itself, is able to predict data with astonishing accuracy, matched only by its astonishing inability to ascribe any meaning to the data. For instance, meteorology can give the probability of rain in Sydney tomorrow at 3 p.m., but is dumbfounded about whether rain is lovely or dismal. By analogy, the quest for the historical Jesus, when done "scientifically" refrains from speculating about whether Jesus' theology is the truth about God, so that Bultmann's statement, "Jesus has this conviction: the age has run out" (Bultmann 1952, 5), is in no way transparent to the statement "the age has run out". Because of this distinction, the post-enlightenment discipline of biblical studies has been absolved of responsibility for the systematic-theological repercussions of its work.

But just as the disciples themselves would have been shattered by the proclamation of the end of the age (if that was indeed Jesus' teaching), post-Einsteinian biblical studies can no longer afford this distance. Instead, it is empowered to re-engage as a profession of responsible agents in the interpretive process. However, scientific data does have a role in the making of meaning: it often has the effect of pushing people towards new insight: it gives order to data so that the human mind can

see new meanings in it. But before the mind progresses to see "beyond" the data, to see how meaning is derived from the data, it is necessary to recognise that when we approach critical methodology aware of the subjectivity, our ontology of the text, and our epistemological process have been altered.

2. QUANTUM BIBLICAL STUDIES

The mechanics of a hermeneutic so altered are quantum mechanics. The "mental objects" which we experience phenomonologically as being "in" texts, such as "Paul's theology", "Mark's intention", "Luke's sources" or even "the primitive kerygma" cannot be studied scientifically if they are understood as material or physical objects. The only empirical data we have are actual New Testament manuscripts. But, if the insight that reality is observer-conditioned can be brought to biblical studies, then subjective aspects of meaning like the "theology", "ideology", "source" or "author" of the biblical text can be engaged without abandoning scientific method with its constraints of empirical evidence, rational assessment of the data.

In its most profound reading, the Copenhagen interpretation of quantum physics as championed by Werner Heisenberg (1989b, 35) is a shift from the atomistic materialism of Democritus, and the mechanistic world view of the Cartesians, to Heraclitan metaphysics: to a view that the unifying principle behind all material things is the element fire (now: energy particles) and change. So, Heraclitus is quoted by Eusebius as saying: *potamoisi toisin autoisin embainousin, hetera kai hetera hydata epirrei* (*Praeparatio Evangelica* 15.20.2), which is paraphrased by our English proverb "one never steps into the same river twice".

The revolutionary truth that modern physics discovered was that quanta, the energy packets of which matter is made, do not have objective existence, but exist as potentialities until they are observed. A photon, for instance, exists potentially as a wave and a particle. Similarly, an electron with an observed position has no precise momentum and no precise position if the momentum is observed. The building blocks of physical reality are observer-conditional.

By attempting a century late to bring this insight into the field of biblical studies, I am only following the cue of Heisenberg himself who, in discussing the Copenhagen physics, said that "the spirit of a time is probably a fact as objective as any fact in natural science" and therefore that "the two processes, that of science and that of art, are not very different" (Heisenberg 1989b, 66). If all reality, scientific and literary, is observer-conditional, then we have reason to bring back into the realm of "scientific" knowledge entities long excluded from a materialistic view of the world: qualities, minds, persons, themes and *meaning*. Conversely, non-empirical entities such as "JEDP", "Q", etc., which are granted uncertain existence, only to the degree that they are conceived as great ancient material objects of ink smeared over papyrus, and which possibly did "exist" as such, are unburdened of the need to be shown to exist materially in order to be seen as valid.

For instance, while the United Bible Society's project of creating a "critical text" of the New Testament seems to imply the existence of a real text greater that the manuscripts, there is a growing awareness of the problems and complexities involved in such an assumption. In 1999, Eldon J. Epp proposed that the term "original text" has at least four dimensions to it: the predecessor text form of the author's sources, the autograph text-form, the canonical text-form (i.e. form of the text at the time of its canonisation), and any number of interpretive text-forms arising from various scribal traditions (Epp 1999, 276-7).

However, Epp's conclusion is in some ways just as problematic as the original problem. Simply to acquiesce oneself to an unstable text-form effectively rules out the possibility of reading, since the act of reading assumes the existence of a text to be read. The problem of the "text's" empirical existence is solved through the observer conditionality of the original text. Just as "authors" and

"sources" are defined by their being observed, the "original text" can be postulated, not as a physical cause for the existence of the manuscripts, but as a regulative ideal which brings order to the diversity. They exist instead as features of the text of the Pentateuch/Synoptic Gospels, or better yet, a feature of our reading of these texts.

This extends beyond hypothetical documentary sources to the oral tradition. The early John Dominic Crossan, while he was still working in a structuralist paradigm, considered whether Jesus' parables can be traced back to a single original, or whether they simply preserve different variations on the way Jesus told them. Crossan (1973) argues that Jesus' parables tend to resolve to one "original" version which is more original, and argues against what he calls A. B. Lord's apodictic statement that "in oral tradition, the idea of an original is illogical" by claiming that "one seldom ends up with two or more equally good variations" (Crossan 1973, 117). One of the alternative possibilities Crossan considers and rejects is that what we are uncovering is not any concrete or authentic retelling of an original, but the skeletal outline of a structure common to the parable's multiform tellings. Did Jesus use the exact same wording and details every time he spoke a parable?

Common sense metaphysics seems to be prevailing over critical thinking in Crossan's assessment of the transmission of parables, while earlier in the book critical thinking won the day with respect to the historical Jesus. Crossan there expresses the view that

the term "historical Jesus' really means the language of Jesus and more especially the parables themselves … One might almost consider the term "Jesus' as a cipher for the reconstructed parabolic complex itself. (Crossan 1973, xiii)

That the historical Jesus is a cipher should not be what is controversial here. Only the present moment is empirically real, so it follows that all historical entities are reconstructions and ciphers.

3. SUBJECTIVE AND OBJECTIVE READING

It may seem at first glance that what I am describing here is a totally subjective outlook towards texts, perhaps reminiscent of Berkeleian subjective idealism, or of the reader response criticism of Wolfgang Iser: "precisely because the literary text makes no objectively real demand on its readers, it opens up a freedom that everyone can interpret in (their) own way" (Iser 1971, 45). The way that the story of twentieth century literary criticism is often told, there is an impenetrable ideological barrier between monists and pluralists of meaning. On the side of monism are the romantics, formalists, orthodox Marxists, and structuralists, whereas post-structural, deconstructionist and reader-response criticisms are pluralist. But the observer-conditionality of reality that quantum physics proposes is totally dissimilar to Berkeley's idea that *esse est percipi*, or that reality can be reduced to perception. Instead, it breaks open the ideological barrier: it makes the *esse* ontologically dependent on the *percipi*. If this is so, then it seems to me that the distinction between monism and pluralism has lost all meaning, because the one object cannot be cut loose from the many subjects.

Over a generation ago, David Bleich attempted to bring the insights of twentieth century scientific method into the realm of literary criticism, but in such a way as to maintain a fundamental difference between scientific and literary method. He grounded his work in the later Sigmund Freud's rejection of Newtonian objectivity, and on that basis assumed a distinction between the material existence of the physical world and the symbolic existence of texts, the distinction being that "(a) symbolic object is wholly dependent on a perceiver for its existence. An object becomes a symbol only by being rendered so by a perceiver" (Bleich 1975, 750). The mechanism by which the reader "renders" a physical text into a symbolic existence is apparanly "faith", for Bleich states that

(t)he truth about the Newtonian Bible is different from the truth about the Newtonian apple. The truth of the Bible requires the faith of the reader; the truth of the acceleration

of gravity does not. The truth about literature has no meaning independent of the truth about the reader. The truth of this essay will be decided by the community which reads it. (Bleich 1975, 745)

It was Freud who, according to Bleich, demonstrated that objectivist, Newtonian thinking cannot be applied to texts because "rationality is itself a subjective phenomenon" (Bleich 1975, 742). But what is this "faith" required by texts that the physical world does not require? Could we really by choice read the historical Jesus as a proponent of Nicene and Chalcedonian orthodoxy any longer, as Joseph Ratzinger (2007) has attempted to do, without feeling that we are lying to ourselves? When we see the leaders of large religious organisations attempting to do so, we feel intuitively that they are acting in bad faith, to uphold a "party line", simply because the anachronism for which they are arguing is impossible on grounds that are objective. This is just as much a guiding principle as the law of gravity.

Conversely, people in states such as denial, brainwashing or hallucination are instances that show that material truths (such as the acceleration of Newton's apple) can be subjectively denied existence by their viewers, as this scene from George Orwell's *Nineteen Eighty-Four* makes clear, when O'Brien at the Ministry of Love says to Winston whom he is torturing,

> "You would not make the act of submission which is the price of sanity. You preferred to be a lunatic, a minority of one. Only the disciplined mind can see reality, Winston. You believe that reality is something objective, external, existing in its own right. You also believe that the nature of reality is self-evident. When you delude yourself into thinking that you see something, you assume that everyone else sees the same thing as you. But I tell you, Winston, that reality is not external. Reality exists in the human mind, and nowhere else. Not in the individual mind, which can make mistakes, and in any case soon perishes; only in the mind of the Party, which is collective and immortal. Whatever the party holds to be truth *is* truth… how many fingers, please?"

> "Four! Five! Four! Anything you like. Only stop it, stop the pain!" (Orwell 1950, 248-9)

What Ratzinger is able to do with a literary trope (the historical Jesus) because reality is defined by the Church's teaching, Winston is able to do with a physical object (O'Brien's fingers) because reality is subjectively ideal, and so it is defined by the Party. Bleich's strict demarcation between physical and symbolic worlds clearly cannot be supported then by the dependence of symbolic worlds on the agency of the perceiver, since this claim is equally true of the physical world.

But if quantum physics is not subjective idealism, then neither is it objective realism. If the dissolution by Big Brother of material reality into mental states is a tool of repression, then equally so is the Stalinistic repression of modernist artists – György Lukács (1963) would call them decadent, anti-realist artists – in the name of socialist realism. Both realism and idealism are attempts to dissolve one kind of reality into another, and this always involves denying one person's experience at the expense of another's. The recent trend of conservative Bible scholars and theologians including Kevin Vanhoozer (1998, 300-302), Alister McGrath (2002, 178), and N. T. Wright (1992, 35) towards so-called "critical realism" as a kind of antidote to postmodern "antirealism" strikes me as case in point; the designation of a certain phenomenon as "real" is by definition a dogmatic, uncritical statement, not open to critical judgment since any evidence that could be offered must itself also be presumed "real" in order for it to have any evidentiary value.

If neither ideal subjects or real objects exist independently, but exist with mutual conditionality, as quantum physics seems to show, then this whole debate between monist or intentionalist and pluralist or reader-response criticisms needs to be laid aside with the recognition that we as readers are absolutely responsible for the creation of our texts, but this affords us no license to be arbitrary in the meanings we ascribe to out text.

4. TWENTIETH CENTURY MOTIONS TOWARDS A QUANTUM BIBLICAL SCIENCE

In spite of this false dichotomy prevailing so strongly in the Twentieth century, there were some critics, consciously or otherwise, who were sensitive to the claims of post-Newtonian physics; to the way that the division between subject and object had been shattered by it. The Russian Literary critic Mikhail Bakhtin, for instance, was profoundly responsive to contemporary science. It was Bakhtin who first made us aware that literary works may be polyphonic:

> A plurality of independent and unmerged voices and consciousnesses, a genuine polyphony of fully valid voices is in fact the chief characteristic of Dostoyevsky's novels. What unfolds in his works is not a multitude of characters and fates in a single objective world, illuminated by a single authorial consciousness; rather a plurality of consciousnesses, with equal rights and each with its own world, combine but are not merged in the unity of the event. Dostoyevsky's heroes are, by the very nature of his creative design, not only objects of authorial discourse but also subjects of their own directly signifying discourse. (Bakhtin 1984, 6-7)

Bakhtin was of the belief that Dostoyevsky was "profoundly original" in the creation of the polyphonic texture (Bakhtin 1984, 8). However, everything he has said about Dostoyevsky's characters rings true about the way sources are used in the Pentateuch and the Synoptic Tradition. In the story of Noah, the voice of the Priestly source, with its tidy mind rings out clearly in the text as it provides extra clean animals to allow enough for food and sacrifice. Even Matthew's heavy-handed conflation of Mark and "Q" cannot silence the vivid imagery of Mark's narrative, and Luke's subtle habit of keeping his sources separate is the very thing that creates Luke-Acts as a cornerstone of first century Christian literature, and in this he is precocious beyond probability.

Bakhtin himself compared the world of a Dostoyevsky novel to the Einsteinian cosmos, although this was an artistic not a scientific analogy (Bakhtin 1984, 16). Bakhtin writes out of an awareness of the massive burgeoning complexity of the science of the early twentieth century. Barbara Green grasps this aspect of Bakhtin when she describes contemporary scientific thought as one of the four world-views that shape Bakhtin, not only through the Einsteinian belief that no two bodies can occupy the same space, but also the Darwinian recognition that the natural world consists in "vast and complex interrelatedness", and specifically, the Galilean value that "Bakhtin frequently cited the significance of … The pattern is multiple centers, not simply one whose hub we inevitably inhabit" (Green 2000, 31).

Bakhtinian polyphony shows an affinity for post-Newtonian mechanics that is ethically instructive to readers. The recognition of complexity leads to an ethic that obstructs attachment to dogmatic conclusions in favour of a more reasoned approach, as Green comments:

> The thoroughly historical and social nature of literary language challenges, beyond a doubt, the categories that have attended the Bible: revelation, inspiration and the like… A similar warning pertains about abstract and timeless theological assertions that are generated off the Bible. The multiple voices on biblical site as well as the many pertinent circumstances must be acknowledged, a process that will slow cosmic pronouncements and call for some review. (Green 2000, 65)

If Bakhtin captured the complexity of the post-Newtonian world-view, and expressed it in literary terms, then it is Princeton philosopher Alexander Nehamas who has captured the more subtle implications of contemporary science for literary criticism. Nehamas (1981) has offered an ontology of the text which is rational without relying on a simplistic common sense realism which would say there are meanings "out there" to be discovered. Unlike Bakhtin, Nehamas does not overtly mention physics. Instead, he deals with the hermeneutical debate of the twentieth century about authorial

intention in the interpretation of texts, and the related debate between monists and pluralists about whether a text has a single meaning, or many. Nehamas' solution effectively solves both of these problems. He proposes the author be postulated as a regulative ideal, which is a formal cause or organising principle for the text, but not its efficient cause as the historical author might be. (Nehamas 1981, 145)

Hypothetical sources are overburdened by the need to prove their empirical existence, and yet their explanatory value is too great to abandon them. Letting go of the need to use them as an efficient cause, but retaining their explanatory value as formal causes of Luke is not only the logical consequence of contemporary science, but also the soundest strategy for reading the texts.

The regulative ideal is a Kantian distinction, as opposed to constitutive (Platonic) ideals, which were conceived as first causes. By contrast, regulative ideals are concepts which guide our critical method and theoretical enquiry, but aren't invested with any metaphysical significance such as were the Platonic ideals. If authors, sources, narratives, literary devices etc. are conceived as regulative ideals, then they are not the cause of the existence of text at all. Instead, they are observer-conditional attributes of the text as it stands.

5. THE "SUB-ATOMIC PARTICLES" OF THE BIBLE

At the risk of over-extending my argument in the view of those readers who have a Cartesian division between world and mind, I am now going to give some examples of how my observation of the markings upon the page of the biblical text actually changes the meaning of the text, with the hope that for those who envision a unified view of physical world and of mind, this step will seem natural and even promising.

Observer-conditional meanings with significant levels of "uncertainty" may be discovered upon viewing the sub-atomic particles of language, allographs and allophones. Linguistics has traditionally defined the stable atomic particles of language as phonemes and graphemes. David Crystal defines them as the smallest units of writing or of speech that are capable of "causing a contrast in meaning" (Crystal 2006, 65, 106). Greek uncials, for instance, are allographs because an uncial papyrus can be written out in miniscule without any change in meaning, or so assume the publishers of the critical New Testament when they publish what claims to be, and is widely accepted to be, a reconstruction of the original uncial manuscripts in miniscule! The old Hebrew alphabet is similarly considered an allograph, and so it is rarely remembered that all or almost all the Tanakh was written not in the classical Hebrew script but in old Hebrew. For instance, its tau, an "X", is presented in the classical Hebrew calligraphy of the Masoretic Text which looks nothing like an "X". But in the thinking of the old Newtonian physics, with its objective-realist materialism, all this is unimportant. For "Newtonian" biblical studies, it is easier to focus on graphemes which, like the molecules of modern chemistry, behave "rationally" according to grammatical rules.

The accents of ancient Greek are graphemes. For instance, an acute accent affects meaning when it sits on a lone omicron with a rough breather. There, it changes a definite article in the masculine nominative singular, to a relative pronoun of the same parsing. But when an acute accent is placed on most words, it is treated as an allograph. Accents are not taught in first year New Testament Greek classes, and Elementary Greek textbooks print the exercises with no accents. This simplifies the study of Greek so much as to be completely justified on a pragmatic level, but it also demonstrates how Newtonian thinking requires the reader to ignore massive amounts of textual data which are denied significance. For practical purposes, lay readers of the Bible and the physical world will probably need to think in Newtonian terms for a long time to come, but from the perspective of quantum science, it must be asserted that the allograph and the quark both SIGNIFY.

For Instance...

However, in a number of passages, it can be shown that allographs affect meaning in a way that is of interest to the lay reader of the Bible, and in each case, it is by the reader's agency that this alteration in meaning occurs. Take the case of Ezekiel 9. The Lord sent a man clothed in linen to mark the inhabitants of Jerusalem who grieve for their idolatry with a "tau", so that they could be spared the coming judgment. When this is read in the traditional Hebrew text, we first have the image of the linen-clad man like a scribe, or like the legendary Rabbi Leow, painting Hebrew characters on the head of a golem. But the old Hebrew tau looks more at home on a treasure map, or more like the signature of an illiterate person. The old tau makes the linen-clad man more of a missionary than a magician, his manner more hurried and less dignified. The two sweeps of his brush allow him to mark people quickly as he strides past, whereas classical calligraphy would require him to stop, stoop down and paint with caution, as if his brush were a surgeon's blade.

What have I done by reading Ezekiel 9 in this way? When I fire my reading of the old tau at the calligraphic tau which is printed on the page of my Hebrew Bible, it is like a gamma ray being fired at an electron. I have taken an empirically real "snap-shot" of it, just as the gamma radiation could produce an image of the atom. But in both cases, when this occurs, the electron's speed and velocity have both been altered by my gamma ray. The brush strokes of the angel change in form, so do their intention, and their feel. Whether or not the quantum particles are described as "really" existing before we observe them, the printed "tau" in my Hebrew Bible is just dried ink, wedged between two closed pages in a book. It does not exist as a "tau" until I recognise it as such. And if I choose to read it as an old tau, its form is very different from what is there on the page, although it is difficult to imagine how I could read it as an aleph, or as an Egyptian hieroglyph etc. There is a bilateral flow between the world and our observations, which makes some readings more likely than others. But this does not absolve me of responsibility, since it is through my agency alone that the ink becomes either an old or a classical tau. If I did not want to interact with the tau, to change it as it changed me, I should not have read it. I should have left the book closed. When I opened the book, I created it *ex nihilo*, and gave it a form, just as sub-atomic particles derive their reality only from our observation of it.

Let me give another example. Depending on our understanding of the apostle Paul, we often read his letters as pieces of rhetoric, rather than formal writing. Particularly in Romans, because of the flow of Paul's argument, it is easy to imagine Paul pacing back and forth, passionately expounding his gospel while his scribe wrote. Consequently, he punctuates his speech with the repetitive phrases "*amén*" and "*me génoito*". Such repetition might be avoided in a more careful writing style. As we reconstruct this picture, it is furthest from our minds whether or not Paul is speaking in the Homeric style which was inflected musically, or simply stresses the accents. It is clear that by 400 C.E., musical inflection was no longer being used, but we do not know about Hellenistic Greek in the first century (cf. Carson 1985, 16-18).

Each time we read "*me génoito*", we have a choice whether to read it with a stress on the accented syllables, or with musical pitch. If it is done with musical pitch, then the first syllable of the second word "*gé-*", will be spoken with a rising pitch, up to a musical fifth. Then, the second syllable with its long dipthong "*noi*", will probably be stressed. It is impossible to say the phrase in this way without sounding shrill and emotional. When it is repeated so often, Paul sounds almost on the verge of hysteria. When it is spoken according to stress, however, it sounds more dignified, adult and rational. The choice we make about pronunciation will affect our understanding of Paul's frame of mind upon writing, and his attitude towards the opponents he is shadow-boxing in Romans. As I read the author's work, I invent the author by my own agency. Although this must be done within the scope of historical possibility, just as the outcomes of quantum mechanics cluster around the

most probable outcomes. We are left with the paradox of an author who is prior to the reader, but created by the reader's mind.

6. THE BIBLE'S MOLECULAR STRUCTURE

Steven Pinker offers a series of humorous examples from newspapers which makes it clear that the same subjective agency that operates in the building of words is also at work in the building of sentences and discourses. A few examples include one from Groucho Marx ("I once shot an elephant in my pyjamas. How he got in my pygamas, I'll never know") and one from a newspaper ("We will sell gasoline to anyone in a glass container") (Pinker 2008, 103). Each of these sentences corresponds to two different possible thoughts. Pinker demonstrates that these double meanings, though completely inexplicable in terms of positivistic or behaviouristic linguistics (such as Markovian "word chains"), are explicable by Chomskyan phrase structures.

The example Pinker analyses is "tonight's program discusses stress, exercise, nutrition, and sex with Celtic forward Scott Wedman, Dr. Ruth Westheimer, and Dick Cavett". Taking the verb phrase, "sex with Dick Cavett", he offers two possible analyses:
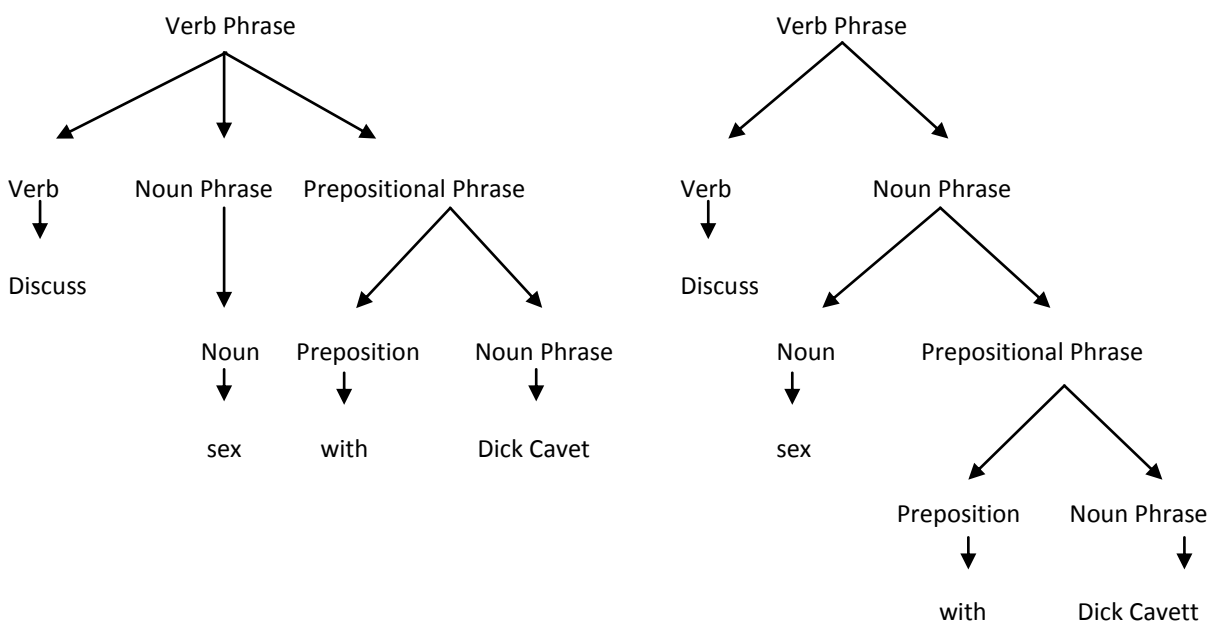
The difference in meaning clearly has nothing to do with the physical object of the ink which is on the page. Rather, the situation is much like the case with the way "*me génoito*" is pronounced: the reader creates the situation by deciding whether to take "sex" as the object of the verb "discuss", or to group "sex with Dick Cavett" together as a noun phrase, and take that as the object of the verb. Just as the reader creates the pronunciation of the words, so also he or she creates the syntax of each sentence, and the discourse of one sentence with another. Just as in the case of graphemes being transformed into words, the parsing of words into meaningful sentences is observer-conditional in the same way that the physical world is.

7. CONCLUSION: BIBLICAL STUDIES AS A DISCIPLINE OF ADULTS

If literature in general and the Bible in particular is observer conditional, and if we assume the ontology of the text is relevant to the ethics of interpretation, then biblical criticism has the opportunity to express itself as an adult discipline, with new freedoms and new responsibility.

Negatively, statements about the meaning of the Bible can no longer be made as though, somehow, the biblical scholar is absolved from the theological, social or political ramifications of what they are saying. A reader may not be able to change the fact that they read a certain New Testament writer as an anti-semitic theologian, and it is true that such a position does not make one anti-semitic, or morally culpable for their reading, but as an adult agent in the interpretive process they are answerable for the consequences of their reading.

And yet growing up brings with it more positive than negative repercussions. Being an adult about the way we read texts as makers of meaning provides a strong ontological reason for historical reconstruction. The postulation of entities such as the Lukan community, the original form of a pericope, "Q" or the historical Jesus is no different from any other part of the interpretive process. Human subjects bring discourse into being from ink-blots, and ink-blots into existence from quarks. It is only natural that from discourses all sorts of postulated entities such as sources, authors and mental states of authors could come into being, and by analogy with quantum theory, there is no reason why these entities should be considered any less "real" than the physical world.

For some, the idea of a unified account of reality in which the structure of meaning can be derived from facts about the physical world will be too much of a push. Nevertheless, the analogy holds. The physical attributes of speaking and writing affect meaning in ways that are observer-conditional, and a full account of meaning must begin to theorise from that assumption. In concluding it seems worthwhile to consider some of the implications of these claims for the discipline of systematic theology as well. God's word has been described as a fiery sword that divides soul from spirit and joint from marrow, but a quantum hermeneutic would apply that image to each reader on a wildly subjective level. Does this mollify God's sovereignty over God's Word? Does Yahweh play dice with the Torah?

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