INTRODUCTION

People widely generate false memories that are behaviorally indistinguishable from true memories, although it is hopeful that at least some are reliable. The qualities of human eyewitness memory would have had profound and lasting impact on the canonical Gospels’ formation. Take the quest for the historical Jesus as an example – the dates that Jesus of Nazareth was crucified have been suggested most probably between 30 and 33 A.D.,¹ while the Synoptic Gospels have been commonly dated somewhere between 80 and 100 A.D.² Moreover, the majority of New

Testament scholars would also accept the independent use of Mark by Matthew and Luke, and now a number of scholars admit the assumption that the writer of John probably quite knew Mark.\textsuperscript{3} Even evidence has shown that the well revised composition was completed in the 2nd century.\textsuperscript{4} Therefore, a discrepancy of at least 40 to 70 years exists between events in the time of Jesus and the time at which they were recorded in the Gospels. During this time period, those events of Jesus are believed to preserve in these Gospel writers’ and the other eyewitnesses’ memories or maybe in some other written records, which were earlier than the extant Gospels. In essence, at best the Gospels are indirect eyewitness to the historical Jesus.

Generally, there are three broad perspectives on the eyewitness memory for the written Gospels. One perspective optimistically assumes that the Gospels are inherently reliable without involving free composition of events.\textsuperscript{5} This argument, though distinct than others, suggests that the Gospels provide a relatively transparent viewpoint into the earliest memories of Jesus rather than constructed literary or theological interpretations of Jesus. Actually a reliable eyewitness memory retention is among one of the featured Gospel traditions admitted by the Evangelists (e.g., Lk. 1:2), the Apostles (e.g., 2 Pet. 1:16), and contemporary authors.\textsuperscript{6}

\textsuperscript{3} For a review on the historicity of the Gospel material, see B. Adamczewski, \textit{Hypertextuality and Historicity in the Gospels}, Peter Lang: Frankfurt am Main 2013, pp. 96–117.


However, it should be also admitted that exact certitude about every detail of the Gospel narratives may be inaccurate. For example, are there two demoniacs whose demons are sent into a herd of swine written in Mt. 8:28 or only one recorded in Mk. 5:2 and Lk. 8:27? Is Jesus crucified at the third hour in the morning in Mk. 15:25 or at about the six hour in the morning in Jn. 19:14?

Two main aspects of evidences underpin this perspective. First, the findings from psychological studies on memory retention, for example, a memory that involves a specific event and has emotional significance can last a long time, provide support for the reliability of the Gospels. It should be noteworthy that ancient memory was heuristic rather than simply mimetic. Furthermore, it was how the memory has been crafted and structured rather than for a simple representation of what happened. The function of memory, therefore, has been always not to represent, not to reduplicate, but to construct, to displace a scenario for images. Even those highly accomplished scholars, such as Richard Bauckham and James D. G. Dunn, do not deny the contribution of literary and redactional creativity to the final form of the Gospels. Second, accumulative studies have approved the proposal of faithful oral transmission of Jesus materials in ancient Mediterranean cultures and the beliefs on the reliability of the oracle itself and its witnesses. In light of this oral tradition and of the majority population as illiterate, mnemonic devices were supposed to be part and parcel of the Gospel resources and also the eyewitnesses’ cognitive repertoires. In sum, according to this perspective, the larger “gist” of the historical Jesus’ narratives are usually likely to be true.


The second perspective argues that based on the assumption of memory distortion, some memories might be wholly unhistorical. Therefore, a proper understanding of eyewitness memory theory should not engender optimism in the reliability of the Gospels. This perspective is underpinned by the observation that human memories are somewhat mutable and are prone to incorporate errors of fact in memories of events.\textsuperscript{10} Even contemporary psychological research for studying recognition memory has provided explicit evidence showing that people usually are merely semantic familiar, but they do not concretely remember those episodically presented items (i.e., the so-called recognition heuristic).\textsuperscript{11} Furthermore, some scholars also assume that recalling the “facts” of the death of Jesus, for example, was not the early communities’ prominent purpose, and they were about the business of making sense to historicize prophecies in Psalms (Ps. 2:1, 7; 16:8–11; 22:1, 18, 22; 69:21, 30; 110:1; 132:11) and Prophets (Am. 8:9; Is. 50:6, 7; Zch. 12:10).\textsuperscript{12} The narrative of the final hours of Jesus is also argued to be actually not we moderns assume as true “history”, but is a creative invention that allows the audience to participate the death scene of Jesus.\textsuperscript{13}

The third perspective tries to reconcile the first two perspectives. It is argued that since it is still hard to rely on memory theory to differentiate authentic materials from false materials, it is impossible to find the truth of the historical Jesus.\textsuperscript{14}


\textsuperscript{14} See Z.A. Crook, “Matthew, memory theory and the new no quest”, HTS Theological Studies 70 (2014), pp. 1-11; J.S. Kloppenborg, “Memory, performance,
On the other hand, empirical evidence from psychological laboratories has also shown that people widely recall a memory that did not actually occur. Those false memories may be due to, for instance, source-monitoring errors that prevent an individual from accurately retrieving an exact received information, though source monitoring is also very effective in an individual's remembering. Among others, phantom recollection is one of prominently false recollective phenomena, and recollection rejection is an editing process that, on the contrary, reduces false recall.

**Phantom recollection** is a memory illusion that, when gist-based false memories are at high levels, a subset of those false memories may be accompanied by illusorily vivid experiences of the prior “presentation” of non-presented items. Moreover, according to Brainerd’s and his colleagues’ research, increases in retrieval process of familiarity or gist on previously experienced events may result in phantom recollection when those old events share common gist or themes with a certain similarity to the real events that were truly presented before. For instance, suppose that one day the Apostle Peter meets some of those five thousand who are fed by Jesus (e.g., Lk: 9:10–17). He asks them to recall what items are served among bread (target), fish (target), banana (related distractor), and olive leaf (unrelated distractor). In this instance, retrieval of a gist trace (i.e., food) supports the acceptance of the test probes bread and fish (both true memories) and banana (false memory), but suggests the rejection of olive leaf (non-food).

**Recollection rejection** is a memory-editing (control) operation that recognizes an instantiating learned target when coming to mind during free or cued recall, which, as a consequence, could suppress false-but-gist-
consistent distractors as recognition probes.\textsuperscript{18} Suppression is accomplished via the process of signal detection on discrepancies between verbatim traces of actual events and false-but-gist-consistent events.\textsuperscript{19} Suppose, for example, one among those five thousands who receives feed retrieves an exclusive verbatim trace (e.g., “I saw only bread and fish when we were eating together with Jesus, His disciples, and other people in the town Bethsaida”), which suppresses the acceptance of false but related items (e.g., banana) through the operation of recollection rejection.

In the next part, first, we briefly describe the narration of Peter’s denials of Jesus. Second, considering the lack of a hermeneutical exegesis on the pericope from the psychological perspective, if any, we attempt to elucidate such a narrative connotation based on the memory retention theory. Third, we furthermore encompass particularistic perspectives from history, theology, and false memory to cast doubt on the reasons why Peter forgets Jesus’ prediction of his denials.

\section*{A PSYCHOLOGICAL PERSPECTIVE ON PETER’S DENIALS}

Jesus’ prediction of Peter’s denials and the actual denials are described in all four Canonical Gospels (Mt. 26:31–35, 69–75; Mk. 14:27–31, 66–72; Lk. 22:31–34, 54–62; Jn. 13:37–38, 18:15–18, 25–27). After the Holy Eucharist in the evening during the Passion of Christ, Jesus says to His disciple Peter, “You will all fall away, for it is written: ‘I will strike the shepherd, and the sheep will be scattered.’ But after I have risen, I will go ahead of you into Galilee” (Mk. 14:27–28). In reply to his Master, however, Peter declares, “Even if all fall away, I will not” (Mk. 14:29; cf. 14:27, 31a–d). In response to Peter’s overconfidence, Jesus answers to him, “I tell you the truth, today – yes, tonight – before the rooster crows twice you yourself will disown me three times” (Mk. 14:30). While Peter still insists

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on his self-confidence, saying that “Even if I have to die with you, I will never disown you” (Mk. 14:31). Nevertheless, the actual denials ultimately happen when various persons interrogate Peter, although there are still disputes among scholars on whom those interrogators are, on the questions or assertions, and on Peter’s responses to them, at least, in two of his three denials across the four Gospels. However, the crow of the rooster (Mt. 26:74b; Mk. 14:72; Lk. 22:60b; Jn. 18:27) and the straightforward look by Jesus (Lk. 22:61a) seemingly bring Peter’s memories back to the prediction of his Lord in the last evening. Eventually, Peter’s repentance is recorded in those few words, “And he went outside and wept bitterly” (Lk. 22:62). Besides, it is also worth noting that the pericope of Peter’s denials alludes to his betrayal of Paul in Antioch (Gal 2:12), and Jesus’ prediction of Peter’s betrayal (Mk. 14:30cd) alludes to his committed violation of Jerusalem accord subsequently between the apostles (Gal. 2:12; cf. 2:9).

In order to interpret the pericope of Peter’s denials through the perspective of memory retention, it is crucial to know the interval of how many hours from the time of dialogue between Jesus and Peter to the time when Peter’s actual denials happen. On the one hand, the Synoptic Gospels record that Jesus holds the Last Supper before the Passover with His twelve disciples when evening comes prior to the dialogue (Mt. 26:17, 19; Mk. 14:7, 15; Lk. 22:8, 13) although the Gospel of John makes no explicit mention that the dialogue happens on the same night with the Last Supper. If referencing to the year 2017, we assume that the sunset time (hence evening begins) of the Passover is at around 7 P.M. If also taking into consideration the Holy Eucharist time, we may deduce that

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20 For a detailed analysis, see G.H. Guyot, “Peter denies his Lord”, The Catholic Biblical Quarterly 4 (1942), pp. 111–118.
22 Annually on 15 Nisan, i.e., the latter part of March and the first part of April after the first full moon after the vernal equinox, inasmuch as the official Jewish day begins at sunset.
the dialogue takes place no prior to 7:30 P.M. On the other hand, Jesus foretells that Peter’s denials happen on “today, this very night, before the rooster crows” (Mk. 14:30), which means exactly on the next day’s morning after the Last Supper. G. H. Guyot referred that the time from Peter’s first to the last denial is between 2 A.M. and 5:30 A.M.\textsuperscript{25} In sum, we anticipate that the intervals from their dialogue respectively to the first denial and to the last denial may be around 6.5 hours and 10 hours.

In another respect, evidence found in modern psychological experimentation indicates that human’s retention functions by which memories become less available are extremely regular. For example, performance of recognizing words systematically deteriorates with delay, and the rate of these changes is negatively accelerated – that is, getting smaller and smaller with delay.\textsuperscript{26} Furthermore, W. A. Wickelgren confirmed that although the effect is not large, people under the condition of alcoholic intoxication show a statistically significant declination in memory compared to sobriety, and the measure of the participants’ memory retention (\(d\)) function is represented as the following equation:

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d = 3.62(T/24)^{-b},
\]

which suggests that the strength of a memory trace decays as a power function of the retention interval \(T\) (hours).\textsuperscript{27}

In the case of Peter’s denials, the Synoptic Gospels record that during the Last Supper, Jesus offers the fruit of vine to His disciples (Mt. 26:27–29; Mk. 14:23–25; Lk. 22:17–18; see also 1 Cor. 11:23–26).\textsuperscript{28} We assume to refer to the equation as the measures of the memory retention of Peter to trace Jesus’ prediction, as shown in Figure 1. Therefore,

\textsuperscript{25} G.H. Guyot, “Peter.”


\textsuperscript{28} According to Mt. 26:27, Lk. 22:18, and 1 Cor. 11:25-26 the drinking is implied but not explicitly stated, whereas Mk. 14:23 contains a reference that the disciples all drank from the cup.
at those moments when the dialogue happens and when his first and last denials occur, Peter’s memory strengths are respectively:

$$d = 3.62^{(T/24)^{-0.321}}$$

- **Dialogue**: $d_{\text{dialogue}} = 3.62^{[1/(60\times24)]^{-0.321}} \approx 37.37$
- **First denial**: $d_{\text{first denial}} = 3.62^{(6.5/24)^{-0.321}} \approx 5.51$
- **Last denial**: $d_{\text{last denial}} = 3.62^{(10/24)^{-0.321}} \approx 4.80$

According to the equation, from the dialogue to Peter’s last denial, the strengths of his memory retention drop 87.25%. Hence, we could preliminarily presume that Peter’s memory trace to recall Jesus’ prediction decays rapidly.

Apart from Peter’s memory decrease, we furthermore assume that phantom recollection possibly could play an important role in determining his denials. In their dialogue, Jesus’ prediction --- that is to say, “you [viz. Peter] yourself [Peter] will disown me [viz. Jesus]” (Target 1), be-
comes a “prior presentation” that could evoke a false-but-gist-consistent memory illusion --- that is to say, “I [viz. Peter] will disown you [viz. Jesus]” (Distractor), if Peter fails to cue the retrieval of the verbatim trace by his own --- that is, “I [viz. Peter] will never disown you [viz. Jesus]” (Target 2). Thus, we presume that Peter commits phantom recollection by falsely recollecting Distractor during his dialogue with the maidservant and bystanders, which causes a non-identity judgment of the corresponding Target 1 and Target 2. Hence, if Distractor does become a false memory of Peter, he could forget his own promise and Jesus’ prediction.

Our assumption that phantom recollection plays a role in Peter’s denials also meets two conditions that elicit the occurrence of this illusory memory: (a) Experienced events repeatedly cue some familiar meaning, and (b) the false-but-gist-consistent event that evokes phantom recollection is especially good retrieval cues for prominent gist memories. In the case, we assume that (1) the dialogues of Peter with Jesus and with the maidservant and bystanders are those experienced events, (2) Target 1 and Target 2 are those familiar meanings, and (3) Distractor and Target 2 are the false-but-gist-consistent event and the prominent gist memory, respectively. In sum, we presume that Peter shows his false recognition for the regrouping (i.e., Distractor) of the previously experienced statements (i.e., Target 1 and Target 2). Moreover, phantom recollection makes Peter’s vivid memory retrieval process difficult to be distinguished from his illusory memory (i.e., Distractor), although the process also accompanies the true events.

In addition, we propose that in order to avoid committing phantom recollection, Peter needs to recall his dialogue with Jesus successfully so that his verbatim memories might access these probes (i.e., Distractor, Target 1, and Target 2) and therefore could trace Target 1 and Target 2. Suppose that it happens, he could either reject Distractor by retrieving his verbatim memories of Target 1 or Target 2 or by noticing that Distractor does not appear together with Target 1 in his own statement.

Furthermore, we assume that during the dialogue between Peter and those various persons who interrogate him, phantom recollection

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refrains Peter from retrieving his episodic and semantic memories, which are, according to E. Tulving, two different but closely interacting systems that contribute to memory performance. Episodic memory utilizes conscious recollection (i.e., a threshold process) and requires a deep level of processing (e.g., undivided attention), whereas semantic memory utilizes familiarity (i.e., a signal-detection process), reflects autonoetic state of consciousness, and is a lower level of unconsciousness without interaction of recollection. In the case of Peter’s denials, his vivid dialogue with Jesus and Jesus’ prediction of Peter’s denials comprise his episodic memory and semantic memory, respectively. However, through the assistance of detecting the relevant signals, recollection rejection helps Peter to suppress his dramatic memory distortion influenced by phantom recollection. In other words, Peter recalls his truly episodic memory when he detects the signal; that is, Jesus straightforwardly looks at him (Lk. 22:61a). Then Peter recalls his truly semantic memory when he detects the signal; that is, the rooster crows (Mt. 26:74b, Mk. 14:72a, Lk. 22:60b, Jn. 18:27b). At last, Peter could recall his dialogue with Jesus and his denials predicted by Jesus.

CONCLUSIONS

Psychology and theology have never ceased to be in dialogue with each other. The modern extension of psychological research gained from over a century of experimentation has created abundant new attempts at interpreting ancient texts including therefore also the Bible. Since the Word of God has recorded into the Scriptures, it has rooted in the life of human behaviors and is believed to work in a way that is potentially influenced by the various Scripture writers’ psychological conditions. By far, there has been more and more multidimensional research trying to

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incorporate these empirical evidence from, for example, psychological research on the qualities and potential reliability of collective and individual memories, social memory, dreams and numerology meanings, goal pursue theory in the decision-making process, and also from other human sciences such as sociological and anthropological approaches, into the biblical traditions. As a result, the critical methodology of exegeses based on historiological studies has been jointly enriched in a large extent with the aid of the conscious part of human minds.

When taking into consideration the atheistic aspects of disciplines such as psychology and psychoanalysis into biblical exegeses, we should also bear in our mind a necessity to clarify the different disciplines’ research boundaries. In other words, the responsibility of theology would be account for the reality of faith, sin, revelation, and salvation, whereas psychology and psychoanalysis are helpful to clarify the extent of human consciousness or unconsciousness, as reflected in Jesus’ saying, “Then give to Caesar what is Caesar’s, and to God what is God’s” (Lk. 20:25b).

It is also noteworthy that after debate over centuries, the majority of biblical authorities has arrived at the same conclusion that the four Gospels show coherence and harmony. Taking the Peter’s denials as an example, although the response of Jesus recorded in the immediate context of the four Gospels and the times of cock crows differs, the

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37 E.g., with his usual flair for detail, Mark records that Jesus speaks twice of the rooster crowing, but for the other Gospels, there is no times mentioned; also see M.G. Mills, “Peter’s denials. Part I: Important background considerations”, *Journal of*
fact narrated by the four Gospel writers is the same, and the divergences among the contexts are in minor details.

In addition, according the apocryphal Acts of Peter (Vercelli Acts XXXV), after Peter is persuaded by his followers to flee Rome to escape persecution, along the road outside the city he sees the risen Christ in a vision and asks Him in the Latin translation the question: “Quo vadis?” (“Whither goest thou, Master?”). Peter hears that Christ is going back to Rome again to be crucified and then realizes where his duty lies. Eventually Peter turns back to Rome to be martyred there by being crucified upside-down with his flock. It is also worth mentioning that the Polish Nobel 1905’s Prize winner for literature, Henryk Sienkiewicz (1846–1916), wrote an epic novel Quo Vadis: A Narrative of the Time of Nero (1895) according to this legend.

The thrust of the current study also has its limitations, in that it applies modern scientific perspectives from psychology to the explication of a particular historical pericope. Hence, the possible value of the present analysis may fall beyond the traditional boundaries of psychology-theology integrative work; that is, stated broadly, the advancement of psychological science which requires the elucidation therefrom of perspectives, laws, or regularities that are more universal in their application. Nevertheless, the current research is an attempt to combine other appropriate methodologies as valid tools into biblical case studies besides traditional theological exegeses.

To conclude our findings, the scope of this article presents a novel application of theories of memory on the exegesis of the Apostle Peter’s denials. We presume that Peter’s memory retention has decayed tremendously from his dialogue with Jesus to the moment when he denies, which may lead him to override his promise and Jesus’ prediction. Furthermore, we also argue that Peter may commit phantom recollection, which leads him to forget his promise; nonetheless, with the assistance of detecting the crucial signals that evoke the recollection rejection process, he finally retrieves his true memories, recalling retrospectively Jesus’ prediction of

his denials. It is hoped that this psychological research can contribute to a deeper understanding of certain aspects of this significant event in the Passion of Christ that has been rooted in traditionally hermeneutical exegesis.

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Abstract. This article attempts to explore the effects of memory retention, phantom recollection, and recollection rejection on the quest for the Apostle Peter’s denials (Mt. 26:31–35, 69–75; Mk 14:27–31, 66–72; Lk. 22:31–34, 54–62; Jn. 13:37–38, 18:15–18, 25–27). Phantom recollection refers that sometimes gist-based false memories at high levels are strong enough to elicit falsely recalled experiences. While individuals retrieve true recognition of their instantiating studied scenarios rather than false-but-gist-consistent lures by detecting relevant signal via a memory-editing operation called recollection rejection. This article examines the extent to which Peter’s memory retention sustains and moreover presumes that phantom recollection leads Peter to override his own promise, but with the assistance of detecting the crucial signals (i.e., the rooster crows, Mt. 26:74b, Mk. 14:72a, Lk. 22:60b, Jn. 18:27b; Jesus straightforwardly looks at him, Lk. 22:61a) that evokes the recollection rejection process, he retrieves his true memories. For the first time, if any, the attempt to interpret the pericope of Peter’s denials through the lens of the false memory theory could elucidate our hermeneutical understandings from the nature of humankind perspective.

Key words: Peter’s denials; False memory; Phantom recollection; Recollection rejection.

wspominienia oparte na faktach na wysokich poziomach są wystarczająco silne, aby wywoływać fałszywie przywołane doświadczenia. Podczas gdy poszczególne osoby odzyskują prawdziwe rozpoznawanie swoich instancji badanych scenariuszy, a nie przynęty zgodne z fałszywymi, ale zgodnymi z normami, poprzez wykrywanie odpowiedniego sygnału przez operację edycji pamięci zwaną porzuceniem wspomnień. W tym artykule zbadano, w jakim stopniu podtrzymuje pamięć Piotra, a ponadto zakłada, że wspomnienia fantomowe prowadzą Piotra do zignorowania własnej obietnicy, ale z pomocą wykrywania kluczowych sygnałów (tj. kogut zapiał, Mt 26:74b, Mk 14: 72a, Łk 22:60b, J 18:27b; Jezus wprost patrzy na niego, Łk 22:61a), który przywołuje proces porzucenia wspomnień, odzyskuje swoje prawdziwe wspomnienia. Po raz pierwszy, jeśli jakiekolwiek, próba interpretacji perykopy zaprzeczeń Piotra przez pryzmat teorii fałszywej pamięci może wyjaśnić nasze hermeneutyczne rozumienie z perspektywy natury ludzkiej.

**Słowa kluczowe:** zaprzeczenia Piotra; fałszywa pamięć; pamięć fantomowa; porzucenie wspomnień.

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