

1 AD as the first year after the birth of Christ.

Second, for those of us who hate to believe that St Luke or any Holy Scripture could have been "mistaken", or at least so easily written off as such, perhaps Cyrenius and Quirinius are not one and the same.

With no year zero to account for between 1 BC and AD 1, the author's second scenario seems more likely to conform to fact.

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HUGHES, in his article on the Star of Bethlehem, makes life unnecessarily difficult for himself. He estimates that a journey of 550 miles across the desert, from Sepharuaim to Jerusalem would have taken four months in preparation and travelling. Consequently he has to show that the triple conjunction of Jupiter and Saturn in Pisces would have been visible, in varying positions, throughout that period of time.

T. E. Lawrence, writing of the Arab Revolt in *Seven Pillars of Wisdom*, recorded that a fully loaded camel, under an experienced rider, could, if hard pressed, cover 80 to 100 miles in a 24-hour period, depending on the country, and that 50 miles ridden in the same period was considered a holiday by comparison. Even the most inexperienced and clumsy riders, who positively hindered their animals, could travel 30 miles a day. The length of stages undertaken in the crossing of a desert is limited, of course, by the distance between wells, but even so, the Magi could have completed their journey from Babylonia in 2 weeks at the outside, or in 10 days with less comfort. Allowing 2 weeks for preparation (gathering of stores, hiring of men and beasts and so on), the whole enterprise would have taken a month at the most.

In other words, the Magi not only could have set off when the triple conjunction was at its best, but would also have been in a position to respond to signs of a much more transient nature.

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HUGHES¹ convincingly dates Jesus' birth by astronomy to 7 BC but unfortunately rejects the historical evidence in Luke II, 2, as usually found in English versions, when an equally valid and grammatically justified alternative translation can be used to support his theory. Luke II, 2 is usually translated "This was the first enrolment, when

Quirinius was governor of Syria"². An enrolment, or census, under Quirinius is well documented because of a subsequent rebellion³⁻⁵, but Quirinius was not governor until AD 6-9. Thus, Luke seems to contradict both the astronomy and Matthew (II, 1), who says Jesus was born before Herod the Great died, that is, before 4 BC.

The necessary change, which completely alters Luke's evidence depends on the use of the Greek word *protos*, usually translated 'first'. *Protos* is the superlative derived from *pro*, meaning before, the comparative being *proteros*, meaning former or sooner. Consequently, according to strict grammar, *protos* should mean first of at least three. But the Hellenistic Greek used in New Testament times was at least as relaxed as modern English in which 'first' is often used when 'former' or 'prior' would be more grammatical⁶. Thus, 'first enrolment' in its Hellenistic connotation is 'first of two' or 'one before' and, as Bruce⁷ suggests, Luke II, 2 is best translated "This enrolment was before that made when Quirinius was governor of Syria". Similar expansions, in which words need to be supplied in translation, are not uncommon and there is no grammatical reason against supplying them in this passage⁸.

Numerous Egyptian papyri of a slightly later date indicate that enrolments occurred every 14 years (ref. 3). If this 14-year interval was observed in Syria the enrolment before that of Quirinius would have been sometime between 9 and 6 BC. Thus, Luke II, 2, instead of being dismissed as a mistake, can be used to support the date deduced by Hughes.

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¹ Hughes, D. W. *Nature* 264, 513-517 (1976).

² Bible, *Revised Standard Version* (quoted as a modern literal translation).

³ Souter, A. & Baker, J. C. in *J. Hastings Dictionary of the Bible* 2nd edn (Clark, Edinburgh, 1963).

⁴ Bruce, F. F. *New Testament History* 90-91 (Nelson, London, 1969).

⁵ Acts, V, 37, also written by Luke.

⁶ Turner, N. *Grammatical Insights into the New Testament* 23-24 (Clark, Edinburgh, 1963).

⁷ Bruce, F. F. *New Testament History* 30 (Nelson, London, 1969).

HUGHES REPLIES—The significance of the triple conjunction of Jupiter and Saturn in the constellation of Pisces' around 7 BC can be better judged by reference to Fig. 1. At no time do the planets approach closer than 1°, about twice the diameter of the full moon. All the stars in this region pale into significance in comparison with the brightness of the two planets (see Fig. 2).

'Herod' was a fairly common name in those times. Herod the Great, the son of Antipater, was made the Governor of Galilee and afterwards titular King of Palestine by the Romans. On his

death the kingdom was divided between his three sons, Archelaus, Herod Antipas (who received Galilee) and Herod Philip II. There is very little doubt that Jesus was born during the reign of Herod the Great (Matthew II, 22) and was tried and crucified during the reign of Herod Antipas (Luke XXIII, 8, Matthew XIV, 1); however, some biblical chronologists do cast doubt on the generally accepted superstition that Herod the Great died between 13 March and 11 April 4 BC, as Edwards shows above.

Simmons finds the month of the birth of Christ by relating the lives of Christ and John the Baptist (personal communication). Zacharias, the father of John the Baptist, was a priest of the course of Abia (Luke I, 8) and would have served in the temple during the 6th week after Passover, the week before Pentecost. As all the priests also served during Pentecost, Zacharias would have left Jerusalem for his home town around Sivan 12th (15 June). Elizabeth, his wife, conceived soon after his return (Luke I, 24) so John the Baptist would have been born about 280 days later, around 27 March. Luke (I, 36) records that Christ was 6 months younger than John the Baptist so this puts the birth of Christ in late September. Interestingly we read in the Talmud that sheep were taken in from the hills on about the first of November until March so shepherds would not be on the hills watching over their sheep between these dates.

Addey⁹, using the same evidence as Hughes¹ comes to a similar conclusion, that Christ was born in the Autumn of 7 BC. Using traditional astrology (apparently giving Christ's horoscope a strong Sun/Leo/fifth house element) and the early Christian tradition that Jesus was born on the day after the Jewish Sabbath, that is on a Sunday, Addey finds the characteristics of Jesus are best fitted by the horoscope for the evening of Saturday 22 August 7 BC (note that in the Jewish calendar the

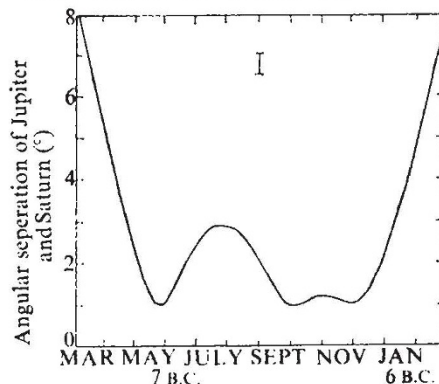


Fig. 1 The angular distance between Saturn and Jupiter during the triple conjunction of 7 BC. The scale bar represents the diameter of the moon in the same scale.