and following the bright light and blindness (Acts 22 : 11), would be quite unusual for the events during and after a complex partial or generalised seizure. Furthermore, he apparently was immediately and desperately aware of his deficit, unlike the typical Anton's syndrome of cortical blindness. Finally, unlike the expected gradual resolution seen in the post-ictal states, Paul's blindness remitted in the sudden fashion described by "immediately something like scales fell from his eyes and he regained his sight" (Acts 9 : 18).

The Acts of the Apostles, which records the events shaping the faith of the early Christian church, is ascribed to Luke, a physician (Colossians 4 : 14) who was a companion to Paul in many of the subsequent events which are described in the book. He is noted to be a careful observer of the cultural, political, and geographical facts pertinent to his story.[4] How one interprets his descriptions of the conversion of Paul is, of course, highly dependent on one's presuppositions regarding supernatural workings in the natural world; however, the information available does not suggest epilepsy.

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Landsborough replies:

am grateful for the comments in the letter rom Dr Brorson and Ms Brewer.

It is generally agreed that the Apostle Paul uffered from some kind of chronic illness or andicap which he describes as a "thorn in he flesh". The evidence from Paul's letters hat this handicap was epilepsy is in my view ubstantial. But Drs Brorson and Brewer oncentrate on the single event in Paul's life on the Damascus road, recorded in the book of Acts, and I would agree with them that the possibility of his having on that occasion an attack of temporal lobe epilepsy ending in a convulsion is more speculative.

They point out that an epileptic attack involving Paul would not have involved his companions in the way described (for example, in one account they all fell to the ground, not only Paul). But this does not completely exclude the possibility of Paul's having such an attack. Luke wrote Acts at the earliest in AD63, after Paul had reached Rome, which was about 30 years after his conversion. Oral transmission of the details of a momentous event may become modified with the lapse of time. Discrepancies appear; for example, one of the three records states Paul's companions heard the voice speaking to Paul, another account states that they heard no voice. The differences between the records of the reactions of Paul's companions are unimportant compared with the central fact of his conversion.

There is no mention of loss of consciousness in the records of the event, nor is there any mention elsewhere of Paul's having a convulsion—unless the "thorn in the flesh" does indeed refer (as I think likely) to occasional convulsive seizures. Following an epileptic attack the degree of confusion is variable. Usually the patient is mentally normal. That Paul was able to continue his journey, apparently at once, to Damascus does not therefore negate his having had an ictal episode. Nor would it be unusual that Paul should retain a distinct memory of his experience.

Regarding the question of post-ictal blindness, Paul was certainly aware of his deficit—he had to be led by the hand into Damascus. Not all cases of cortical blindness display Anton's syndrome. I agree with Drs Brorson and Brewer that the rapid return of vision, after three days, in Paul's case is unlike the more usual gradual resolution as reported in cases of post-ictal blindness by Sadeh *et al*.[1] But it cannot be said to exclude it. The categorical record of complete blindness after Paul's aura of a flash of light and his falling to the ground, together with other already named evidence, is marginally in favour of the concept of a post-ictal complication—albeit a rare one.

The patients described by Barry *et al*[2] appear to be in a different category. The emphasis is on ictal blindness rather than post-ictal, caused by focal epilepsy of the occipital lobes. If prolonged, with EEG monitoring, the term *status epilepticus amauroticus* is used. The patients with postictal blindness studied by Sadeh *et al* were not so monitored; they argue for hypoxia, not status epilepticus, as the cause.

Natural events may influence individual decisions. Martin Luther's experience in 1505 on a road near Erfurt, Germany, is a parallel. He was overtaken by a thunderstorm, feared for his life, was prostrated by a flash of lightning, and vowed forthwith to become a monk.[3] A cataclysmic natural event such as a first epileptic attack may have influenced Paul at a critical point in his thoughts. The incidence of such an event in his life does not diminish the reality of his spiritual change—from which he never wavered.

Caird[4] writes, "According to Paul himself, as well as the three accounts in Acts, the episode on the road to Damascus was a great act of God which by itself sufficiently explained the change produced in his life."

D LANDSBOROUGH

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Hyperbaric oxygen and multiple sclerosis

Sir: It is pleasing that, after the positive findings of their earlier report,[1] Barnes *et al*[2] now recommend that further studies of hyperbaric oxygen therapy are undertaken in multiple sclerosis patients. Their failure to substantiate the patient's reports of improvement in bladder function, which were also noted by Fischer *et al*,[3] is curious. The improvement has been objectively demonstrated in one uncontrolled[4] and two double-blind studies.[5 6] In the UK study, recently reported by Wiles *et al*,[5 6] the twenty patients most severely affected by bladder dysfunction were evaluated by cystometry. Of the nine patients who received hyperbaric oxygen, five showed improved bladder capacity and four were unchanged. This contrasted with the control group of eleven patients, where one patient deteriorated, one