''Remedies such as Uraca's may have hurt, but most of them would not have done any lasting damage. Given the risks involved, however, the consistency with which spices were applied to the eyes is nothing less than astonishment. Pepper salves appear in Greek medical manuscripts of the 5th century, mixed with copper, saffron, opium, lead, and calamine. Pedro Hispano, later Pope John XXI (ca 1215–77), author of one of the most widely consulted medical works of the Middle Ages, *Universal Diets and Particular Diets*, claimed that ''Pepper is good for dimmed eyes.'' For ''dimness of the eyes'' the early 11th century Anglo-Saxon manuscript known as the *Herbarium of Apuleius* suggests obscurely but alarmingly, a poultice made of ground celandine, honey, pepper and wine with direction ''smear the eyes inwardly.'' The thinking seems to have been that just as bleeding drew off ill humors from the blood, so provoking tears drained off the ill humors of the eye, warming and drying the wet and runny eye of superfluous fluid. More likely they simply caused unnecessary damage. The accumulated authority of medical tradition overruled observation. (Turner, Jack. *Spice: The History of Temptation*. New York: Alfred A Knopf, 204:171)

Challenging notion: One of the reasons the lens remains transparent is that during development a limited suicide programme is a normal part of the developmental process. Initially, stem cells differentiate in the cells that elongate around the outside rim of the lens adding layers in an onion-like manner. These cells have a nucleus, mitochondria, endoplasmic reticulum, and other typical organelles. However, as they are encapsulated by newer cells, they degrade their organelles leaving nothing but outer membrane and a thick solution of special proteins called crystallins. This provides a uniform index of refraction that does not scatter light. Mutant zebra fish in which intact organelles are detected have cataracts. Similarly, in mice born with cataracts a deficiency in a DNA Fe that is essential for degradation of DNA in lens cells is apparently essential in cataract formation. Understanding lens organelle degradation may shed light not only on cataract formation but on other disorders associated with ageing. (*Scientific American* 2004;**291**:82–9)

Concern has been raised that company sponsored clinical trials are often closed to public scrutiny. Allegations that a few companies suppress negative results have prompted the US Congress to introduce legislation to create a mandatory public registry of such trials. It would require that clinical studies be described publicly at their inception and that results be added when a trial is complete. (*Science* 2004;**305**:1695)

The problem of the use of cellular phones while driving a car has now been documented. Nevertheless, many countries still permit the use of cellular phones while driving. In a study of 20 men and 21 women investigators from Israel studied visual field performance while cellular phones were being used. In this study cellular hands free conversation caused some subjects to miss significantly more points and to react more slowly to each stimulus and perform with reduced precision in this visual field test. The authors suggest the impossible—that legislative restriction on cellular phone conversation and driving may need to be based on individual performance rather than a general ban. (*Am J Ophthalmol* 2004;**138**:347–53)

Three laboratories recently reported derivation of gamete-like cells from mouse embryonic stem cells. Much progress must be made to reach the goal of deriving germ cells from embryonic stem cells. The possibility of deriving gametes from human embryonic stem cells could allow infertile individuals to have genetic offspring. If the technique approached the same level of safety and cost as those of current in vitro fertilisation protocols, it is likely that the majority of infertile individuals and/or couples would want to benefit from it. Society places value on genetic offspring and this technology, if widely available, could further democratise human reproduction. (*Science* 2004;**305**:1719)

A challenge for modern cataract surgery is restoration of accommodation in pseudophakic patients. Because the optics of current intraocular lenses (IOLs) do not change in shape during ciliary muscle contraction there is general understanding that pseudophakic patients cannot accommodate. Current accommodating IOLs have not thus far restored normal amplitudes of accommodation. In a study from Austria the use of pilocarpine to induce forward movement of accommodating IOLs was studied. Although a small for ward movement of the accommodating IOL was documented the calculated change in refractive correction was <0.5 D. In this study neither polishing of the capsular bag nor a posterior capsulorhexis enhanced the accommodating ability. The search for a fully accommodating IOL system continues. (*Ophthalmology* 2004;**111**:1515–21)

Researchers have suspected that exposure to influenza during pregnancy may raise the risk of offspring developing schizophrenia. A group of investigators from Columbia University have measured flu antibodies in 40 year old blood samples from mothers of schizophrenics and unaffected individuals. In this study those fetuses exposed to flu during the first half of pregnancy were three times more likely to develop schizophrenia but those exposed during the second half had no increased risk. If this link is confirmed further work might lead to preventive strategies against some cases of schizophrenia. Subtle brain damage from an inflammatory autoimmune response to viral infection may be a contributing factor in schizophrenia. (*Arch Gen Psychiatry* 2004;**61**:795–804)

The Ebola virus is among the deadliest on earth. Outbreaks last year in the Republic of Congo accounted for 157 deaths. Because it can be exceedingly contagious in aerosol form, the Ebola virus ranks with smallpox and anthrax as one of the most worrying potential biological weapons. Although there is no effective treatment recent tests have shown a new vaccine able to prevent infection in monkeys. Even though this vaccine has not been, and probably will not be, tested on humans the Project Bioshield Act signed by President George W Bush authorises the US Department of Homeland Security to spend up to $5.6 billion over the next 10 years to increase its stockpile of anti-bioweapons medicines, including vaccines such as the Ebola vaccine, that the US Food and Drug Administration has not yet approved. (*Scientific American* 2004;**291**:20–4)

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