

fundamental redesign of clinical practice. Kaiser Permanente is committing a billion dollars to this task in an effort to redesign the way it offers health care. The Institute of Medicine in the United States will soon produce a report on redesigning health care, and Britain's Foresight report on health care contains many ideas including the creation of virtual cyber physicians and rolling back healthcare into the community.³ These groups are to be applauded for their efforts and

thoughts, but globally we need experiments that redesign care to take advantage of new technology. To date we have just bolted these technologies onto hamster care, spinning the wheel ever faster.

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Hebdomadal rhythms of the heart

Why do deaths peak at the start of the week? Because we don't like Mondays

Dean Swift, in caustic vein, dubbed Monday the parson's holiday. But it certainly isn't a day of rest for the medical profession. The results of several recent studies warn that cardiologists in particular are likely to have a busy time.¹⁻³ One study from Scotland by Evans and colleagues, published in the *BMJ* earlier this year, showed that in men and women under 50, mortality from coronary heart disease was about 20% higher on Mondays than on other days of the week.⁴ From North America, another study, which investigated a series of patients who had received implantable defibrillators with event recorders, showed that there was a clear peak in the occurrence of life threatening ventricular arrhythmias on Mondays.⁵

That fluctuations in rates of heart disease are linked to time is hardly news. It has been known for awhile that coronary events are two or three times more common in the early morning than during the rest of the day,⁶ and that both north and south of the equator there is a winter peak and a summer trough.⁷ This isn't really very surprising. Apart from creatures living deep on the ocean floor, the physiology of most biological organisms varies with the 24 hour rhythm of night and day and the passage of the seasons. Circadian variations in pulse rate, blood pressure, and the aggregation of platelets are as familiar to doctors as the sunflower's phototropic gyrations are to gardeners. Seasonal cycles of reproductive activity and growth in plants and animals follow changes in temperature, the availability of light, and the abundance of food. They are evolutionary adaptations to the rotations of our planet within the solar system. So daily and seasonal changes in the occurrence of disease can easily be linked to daily and seasonal changes in our internal and external environment. The week though, is an arbitrary division of time—a human invention that dances to no cosmic tune—and the reason for an excess of coronary heart disease on Mondays is less straightforward.

To find out about the origins of the seven day cycle that we call a week, I asked Jeeves (www.ask.com).

Although it was hard to be sure of the reliability of the information he provided, it seems that weeks probably began as a subdivision of the Babylonian calendar. Quite why, in the first millennium BC, the Babylonian astronomers settled on a period of seven days is a mystery. Lunar months, which last an awkward 29.5 days, can be divided more exactly by 5, 6, or 10, and a solar year would be better fitted by periods of 5 days. Whatever the reason, a 7 day week turned out to be remarkably durable. The ancient Jews incorporated it into the Old Testament account of the creation, according to which God laboured for 6 days and rested on the seventh. And Christians not only took it up for their calendar, but soon claimed to have thought of the idea in the first place. The venerable Bede, in the 8th century AD, wrote: "For although it is true that barbarian nations are believed to have weeks, it is nonetheless obvious that they borrowed this from the people of God."⁸ Not all countries and civilisations chose this period. In the 1920s and 1930s, the Soviet Union experimented with shorter weeks of 5 and 6 days, and the ancient Egyptians preferred a longer 10 day cycle. The French did too—at least for a brief spell after their revolution. *Le Calendrier Républicain*, instituted in 1793, divided each month into three décades, but a regime of 9 days' work before a break proved so unpopular that it was abandoned after little more than 10 years.

Which brings us back to cardiovascular events on Mondays and the suggestion made by Evans and colleagues that the drinking of alcohol at weekends is a cause. It is a long standing medical tradition that whenever possible patients should be blamed for their own disease, but perhaps a profession that is second only to publicans and veterinarians in terms of deaths from cirrhosis of the liver⁹ ought to be more chary of this sort of explanation. In the current climate, it is bound to occur to someone that the quality of treatment provided by hungover medical practitioners on Monday mornings needs investigation. What's more, as the electronic responses to the paper pointed out, it is hard to square with what we know about the cardioprotective effects of moderate alcohol consumption.^{10 11}

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It was interesting to find, in discussing the increased incidence of cardiac events on Mondays with non-medical friends, that no one was the least bit surprised by the phenomenon. They all thought it was perfectly obvious that the symbolic significance of Monday mornings and the physical and psychological demands of returning to work at the beginning of the week were to blame. Maybe there is more than a germ of truth in this folk explanation. After all, the popular belief that physically or emotionally stressful events such as anger, sexual activity, and heavy physical exertion carry a risk of causing a heart attack was proved right by the findings of the determinants of myocardial infarction onset study.¹²⁻¹⁴ An investment banker pointed out the Monday effect in international equity markets. Apparently, it is well documented that financial assets exhibit lower than average returns on Mondays compared with other days of the week.¹⁵ It may console epidemiologists to learn that economists are just as puzzled about why Monday is a bad day for money as they are about why it is a bad day for hearts. Christopher Martyn *associate editor, BMJ*

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African women with HIV

Faith based answers might ease the social problems that lead to AIDS

The international AIDS conference held in Durban earlier this year made the world aware of the global HIV catastrophe and of the need to prevent vertical transmission from mother to child. The fact that women are vulnerable to HIV infection in the first place must be of equal concern. Like women elsewhere, African women are stultified by circumstances largely beyond their control. These include sexually transmitted infections, sometimes associated with "dry sex" practices, and myths touting sex with a virgin as a cure for male HIV infection. The culture of silence surrounding sexual practices in general, the stigma of AIDS, women's lack of control over their bodies, and vulnerability to dispossession by a vexed husband or sex partner are no help. Low literacy rates, lack of information, limited choice, and little access to paid work outside the home result in morbid dependency and crushing poverty that are terrible burdens. Religious leaders and traditional healers should be allies of women, delivering educational and support services against HIV, and strengthen public influences for greater justice.

Tackling the problem will involve educating men to have greater respect for women, increasing awareness of gender based injustice, and changing oppressive social structures. Training women in negotiating skills may help both them and their spouses to obtain HIV testing and counselling. Offering women job training and literacy would be important. Strengthening the

position of women in developing countries improves the prospects of children's welfare, as it does that of their mothers.^{1,2}

Traditional African healers and birth attendants (midwives) exercise healing functions and adhere to a strong, though conservative, social ethic. Altogether, "the spiritual factor" has often disadvantaged women and people who are HIV positive, but with respectful engagement it has the potential to ameliorate the AIDS crisis. Traditional African healers often regard illness as caused by the nearness, rather than the absence, of the Divine. Prayers urge God's removal to distant realms.³ Alternatively, illness may be seen as resulting from breach of taboo or offence to ancestors or the community, or from witchcraft or sorcery. The ill person appeals to a diviner for reconciliation with the offended, which would effect a cure.^{4,5} The prominence of the "living dead" (the ancestors) in African communities explains the significance of ill children. Children are the way ancestors will be incarnated and by which the community remembers its forebears. A child's death, whether by illness or other cause, is therefore disastrous.³

The status of girls in traditional African cultures is limited. Women are marginalised by polygamy and being married to their deceased husband's brother. Taking seriously Africa's health needs means reckoning with traditional healers, traditional culture, and related spiritual assumptions about the nature of