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Ethics and Medicine seeks to develop a Christian mind on the complex and fundamental challenges posed to society by the break-up of the Hippocratic consensus and technological advance in medical science.

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In the UK: Centre for Bioethics and Public Policy
58 Hanover Gardens, London, SE11 5TN
Tel: 071–735 6210 Fax: 071–587 0595
In the USA: The Southern Baptist Theological Seminary
2825 Lexington Road, Louisville, KY 40280
Tel: (502) 897–4011 Fax: (502) 897–4056

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C. Ben Mitchell, Editor

Comment: Back to the Future

This issue of *Ethics and Medicine* commences under new editorial guidance. I am honoured to have been asked to assume the editorial responsibilities for what I believe to be a unique and significant contribution to bioethics. It is not without trepidation that I follow so splendid a legacy as that left by our previous editor Dr Nigel Cameron. For the past twelve or so years as editor, Dr Cameron has proven himself an indefatigable scholar and creative entrepreneur. We should be encouraged that Dr Cameron remains both a member of the editorial board and solidly committed to helping us all think Christianly about the issues under our purview.

Journals, like persons, have personalities. I wish to assure readers that it is not my intention to alter the personality of *Ethics and Medicine*. Having been a reader of the journal for a number of years and the North American review editor for two years, I have more than a casual acquaintance with this organ. Further, as a member of the advisory board of The Centre for Bioethics and Human Dignity and recent invitee to the Ethics and Medicine Trust, I have an umbilical attachment to those who help shape the contours of Christian bioethics.

Thus, we begin this most recent venture with a self-conscious identity and mission: '*Ethics and Medicine* seeks to develop a Christian mind on the complex and fundamental challenges posed to society by the break-up of the Hippocratic consensus, and technological advance in medical science.' Never in the history of medicine and ethics has this task been more necessary. Burgeoning medical technology uninformed by the canons of Christian Hippocratism is a disaster waiting to happen. The erosion of the physician-patient relationship leaves the medicine cold, sterile, and without compassion. Indeed, the machinery of modern medicine seems bent as much on ending lives—from womb to tomb—as on saving lives.

In light of the urgency of the hour, *Ethics and Medicine* remains committed to its original goals. The journal is, therefore, committed unashamedly to Christian Hippocratism. As Ludwig Edelstein has written: 'That for centuries the so-called Hippocratic Oath was the exemplar of medical ettiquette and as such determined the professional attributes of generations of physicians, no one will doubt.'[1] Informed by Christian theological principles and virtues, Christian Hippocratism is *sine qua non* of the relationship between compromised persons and their physicians. Not only does Christian Hippocratism provide a moral grounding for the professional responsibilities of the good physician, but it proscribes the boundaries of harm which medicine is so often tempted to breach. It only takes a moment to recall the human atrocities (from Auschwitz to Oak Ridge) which could have been avoided had physicians heeded the oath.

Likewise, *Ethics and Medicine* encourages a multidisciplinary approach. While the heart of the medical enterprise may be the physician-patient dyad, that relationship by no means exhausts the dynamics of medicine. Thus, we consciously invite articles from those of all related disciplines, including nursing, ethics, philosophy, theology, psychology, law and the allied health fields. The practice of medicine is somewhat perspectival; therefore it is important to have as many perspectives as possible. John Kilner, et al, have rightly diagnosed the problem. 'The emergence of bioethics as an academic/professional/policy discipline, which has almost wholly cut away its root in the Christian-Hippocratic tradition, is symbolic of the shift to a new, post-Christian and post-Hippocratic, manner of addressing the agenda.'[2] The self-conscious goal of *Ethics and Medicine* is to engage western medical culture in an attempt to demonstrate the superiority of the Christian-Hippocratic tradition for the future of medicine.

Since the journal is an 'International Christian Perspective on Bioethics' we seek to cover the range of issues which impact medicine in a global context. With the American embrace of assisted death, for instance, it is imperative that we in the United States learn from the experience of the Netherlands. Similarly, the Human Genome Initiative, the global collaborative effort to map and manipulate human genetic materials, portends to influence molecular medicine around the world. Because we live in what has been described as 'the global village' with vast stores of information being transferred electronicdally across the face of the earth, policy statements of one national community tend to inform the policies of other communities. It behooves us to work with eyes wide open to what is occurring around the world.

Finally, having reviewed the foundations upon which the journal is built, it should be added that we sadly find ourselves being countercultural. As Nigel Cameron so aptly put it in his farewell editorial, 'The unthinkable has become the thinkable, the conscience of the culture has begun to adjust to the awfulness of the values of the New Medicine, in which the sole surviving value lies in the power of choice of those who have the power of choice.'[3] If for no other reason, God may have raised up *Ethics and Medicine* to be the conscience of medical science. Even if we are not able to turn back the juggernaut of atomistic self-determination and prevent medicine from being turned to madness, perhaps we shall be a repository for a distant culture, which, having experienced the bankruptcy of our present age, will long for medicine that is at once truly humane and compassionate, which truly heals the broken and suffers with those who are suffering.

I am most grateful for the opportunity to serve God and work with colleagues on both sides of the Atlantic toward the goals set forth above. To Nigel Cameron, John Kilner,

David Short, Agneta Sutton, and our publisher, Paternoster Press, I owe a special debt for the encouragement they have offered. I look forward to the prospect of a long and happy relationship as editor of the journal. *Soli Deo Gloria*.

1. Ludwig Edelstein, *Ancient Medicine* (Baltimore Maryland: The Johns Hopkins University Press, 1967), p. 4.
2. John F. Kilner, Nigel M. de S. Cameron, and David L. Schiedermayer (eds), *Bioethics and the Future of Medicine: A Christian Appraisal* (Paternoster Press/Eerdmans Publishing, 1995), p. x.
3. Nigel Cameron, 'Comment: A Farewell from the Editor, Dr Cameron', *Ethics & Medicine* 12 (1996), p. 1.

Simon Davies, M.B., Ch.B.

Ignorance Increases the Dangers of the Ecstasy Dance Culture

If, as the drug agencies say, total prevention of drug abuse is unattainable, then it is at least desirable that the harm be reduced. Harm minimization in connection with drug abuse may take different forms; it may mean providing various implements or it may mean providing primarily information. Harm minimization was first applied to opiate (heroin) users in response to the increasing prevalence of HIV. Thus heroin addicts were supplied with free clean needles without fear of legal reprisals. This paper presents a number of findings suggesting that information may reduce the ecstasy problem.

Information, it is argued, can, if efficient, achieve at least secondary prevention among those whom primary prevention have failed to reach. In other words, harm might be minimized by preventing overdosing, accidents and infections attributable to lack of knowledge of the risks and dangers of the activity (Newcombe 1987).

Early studies have shown that the number of people using recreational drugs such as ecstasy outstrips traditional services. The decision to take drugs is personal and statements by the authorities have limited influence. Drug users will not listen unless health education messages are credible and congruent with the user's own attitudes and values (McDermott 1991, 16–18).

Indeed, it has been argued that only the subculture of drug taking has the authority to control the actions of its members (Young 1972). In other words, in order to reach people within the culture you need to be at one with it.

If, as authoritative voices have argued, a judgemental approach to drug culture tends to drive it underground, a policy of seeking to achieve, at least, controlled use seems rational. Such a policy would involve information on suitable quantities, administration, ways of obtaining help and of avoiding hazards. Suitable target groups would be identified. And long-term follow up studies would be undertaken to evaluate effectiveness (Newcombe 1987). Such evaluation would help to inform future strategies of harm reduction.

This paper discusses the findings of a comparative study of drug users in Manchester and Edinburgh, assessing the impact of knowledge about the risks attached to ecstasy on the behaviour of ecstasy users.

Facts About Ecstasy

The Number of Users

No one knows how many ecstasy users there are in the United Kingdom at present. Estimates must be made on the basis of sources of information such as customs statistics. In 1993–1994 British customs officials seized 500 kg of MDMA, enough for 5 million doses of ecstasy. Research suggests that only 1% of MDMA trafficking is stopped in the customs (Maynard et. al. 1994), which means that some 500 million doses a year may be imported into the country—in addition to the domestically made MDMA! This does not give an indication of the number of users, but suggests that this number is sufficiently high to cause concern. Furthermore, this concern is backed up by an apparent increase in the use of MDMA of 650% between 1900 and 1992!

The Number of Deaths and the Incidence of Morbidity

It is estimated that at least 42 people have died due to ecstasy, putting the risk of death at about 1 in 3.4 million. However, more substantial evidence comes from an article by Dr P. Freeland, who estimates that the minimum hospitalization rate is 23 per 100,000 'rave' dance attendance. Considering the number of people who 'rave' each week, this figure shows that ecstasy is a

serious cause of morbidity—and an unnecessary strain on hospital services.

The Dangers

MDMA can be dangerous in three different ways:

1) it may cause central nervous system damage
2) it raises the body temperature and may, therefore, cause heat-stroke
3) it may lead to psychiatric/psychological problems.

One of the greatest concerns over MDMA is neurotoxidity. Researchers studying MDMA neuromodulation in monkeys noticed that when monkey brains were damaged by MDMA, a difference could be seen in their spinal fluids. The same difference has been observed in human MDMA users (Ricaurte et. al. 1994).

Hepatic (Henry 1992) and renal toxidity have also been observed. But the main physical—and the most dangerous —effect of MDMA is that it causes substantial increase in body temperature due to a direct interference with the thermoregulatory site of the brain. This allows users to overheat without feeling any adverse bodily sensations. Nearly all ecstasy-related deaths have been due to this. In addition to the risk of heat-stroke, users are at increased risk if they take certain types of medication, are pregnant or are affected by certain other conditions, including epilepsy, that are incompatible with the drug.

MDMA use also entails a number of psychological dangers. In this regard, its basic effect is to lower natural defence mechanisms, making the users feel euphoric. Some people, once these defences are removed, gain insight into what is usually subconscious within the mind. For example, they may see themselves, as it were in their 'true light'. Although this can be a positive experience, it can also be a negative one, leading to a generalized negative mental state. This may predispose the user to further, and more serious psychiatric/psychological problems, e.g. anxiety states. One of the main psychological dangers, as with all substances of abuse, is the dependence state. Due to the euphoria/elation that ecstasy causes, it may make ordinary life seem dull and depressing. Misuse of MDMA has also been associated with flashbacks, confusion, anxiety states and insomnia (Greer and Strassman 1985) as well as with paranoid psychosis (common with most drug users), and, even more disturbing, with chronic paranoid psychosis (rare in connection with drug use) (McGuire and Fahy 1991). This is reiterated in a later study on the diversity of the psychopathology of ecstasy, which concluded that the use of MDMA may be associated with a broader spectrum of psychiatric morbidity than previously suspected (McGuire, Cope and Fahy 1994). There can be little doubt, then, that MDMA has the potential to cause serious harm; and as the long-term effects are not yet known, what we have seen so far may only be the 'tip of the iceberg'.

It should be remarked that these facts above relate to MDMA in its pure form. Only about 60% of pills are in fact MDMA; other drugs are often taken alongside MDMA. When this is the case the toxidity effects may be greatly increased (Internet).

To sum up, ecstasy is a source of real and present danger within today's society.

The Harm Minimization Programmes in Manchester and England

Harm minimization through information aims to reduce the danger of drug use by making users aware of risks. Manchester and Edinburgh both have harm minimization agencies, but at different stages of development. The harm minimization agency in Manchester, which is called 'Lifeline' was set up in 1989. The programme in Edinburgh is run by an organization called 'Crew 2000', which has been working for about three years but its walk-in office has been open only since June 1995.

'Lifeline' is a high-profile set-up that deals with dance drugs, provides a walk-in service, collaborates in research projects and provides an up-to-date series of approximately 50 leaflets about drug use and is specially tailored to appeal to members of the drug-using culture. In addition, on the advice of Dr NewCombe, Manchester City Council has specified the following rules which clubs must adhere to in order to retain their licenses:

1) air quality and temperature must be monitored and ventilation must be adequate
2) adequate facilities for 'chilling out' must be provided
3) free drinking water must be available
4) customers must be provided with up-to-date information about the risks of drug use
5) security staff must be trained in dealing with drug problems
6) out-reach personnel must be available on site to offer confidential advice, first aid and a referral service.

Together with a drug series of educational posters about ecstasy, developed by 'Lifeline', which were sent to all Manchester clubs, these measures are known as the 'Safer Dancing Campaign'. Through prevention, health promotion and early intervention, 'Lifeline' aims not only to inform existing drug users but also to reinforce the decision of others not to use drugs.

By comparison, the Edinburgh programme, run by 'Crew 2000', is in its infancy. Basing its policy on the 'Lifeline' principles, it complements it with theories of educational empowerment (Cf. Friere 1972) and has set up an interactive database.

A Comparative Study of Drug Users in Manchester and Edinburgh

Twenty-five people from Manchester and twenty-five from Edinburgh, recruited via a 'peer network' and consenting to participate in the project, completed a multiple answer questionnaire and were subjected to a semi-structured interview, which allowed digression from the issues to other areas considered relevant to the drug culture. All this was done within the subject's home environment.

Knowledge About Drugs

The examination of the results indicated that the Manchester group of subjects were better informed than the Edinburgh group and that this was the effect of a more

developed infrastructure of harm minimizing strategies. Moreover, it would appear that knowledge did alter behaviour and that the better informed group were pursuing safter practices.

The effects of a combination of amphetamines and MDMA, coupled with the exertion of dancing, can be to increase the rate of the heart to 175–200 beats per minute. In Manchester 76% of the subjects realized this, compared with 56% of the Edinburgh subjects. In addition, only 44% of the Edinburgh subjects realized that the recommended amount of time to 'chill out' whilst in a club is 5–10 minutes per hour, compared with 64% of the Manchester subjects. Edinburgh subjects tended to underestimate the time required for 'chilling out'.

This discrepancy in knowledge between the two groups was evident also when the subjects were questioned about the actual drugs themselves. Amphetamines are frequently cut with other chemicals resembling the 'desired' drug. When bought in the street, the purity may be no more than 20%. In Manchester 36% of the subjects recognized this, while only 16% of the Edinburgh subjects did so. The implications of these data is that many users take drugs of lower quality than they think and are ingesting more unknown chemicals. When asked to identify strong doses of acid (150–200 mg) and MDMA (125–150 mg), 84% of the Manchester subjects identified the correct answer, while among the Edinburgh subjects 68% identified the correct answer in the case of acid and 52% the correct answer for MDMA. Once again, the data confirm that many users may take drugs at overdose levels without realizing it.

Differences between the two groups were seen also in the knowledge of the effects of drugs. 40% of the Manchester subjects knew the effects of ecstasy, compared with 28% of the Edinburgh subjects. When questioned whether drugs could affect them psychologically, 72% of the Manchester subjects and 48% of the Edinburgh subjects correctly responded, 'yes'. 100% of the Manchester subjects, and 96% of the Edinburgh subjects, thought that drugs often have psychological effects—indicating that many subjects seem to adopt the attitude of thinking that 'it will never happen to me', which is a dangerous state of mind. The Manchester subjects correctly identified that all drugs can cause psychological problems, while only 36% of Edinburgh subjects considered this to be true.

Harm Minimization and the Level of Knowledge Among Drug Users

The difference in knowledge shown by the two groups may, on the basis of the face value of the facts, be attributed to the differences between the harm minimization programmes in the two cities. Since the object of the programmes is to convey knowledge, it is reasonable to assume that the relative lack of knowledge in the Edinburgh group was due to the less developed harm minimization programme in the area. This conclusion is backed up by the fact that 80% of the Manchester subjects had heard of 'Lifeline', whereas only 56% of the Edinburgh subjects had heard of 'Crew 2000'. Coupled with the fact that 52% of the Manchester subjects have had contact with a drug agency, compared with 28% of the Edinburgh subjects, and that 52% of the Manchester subjects had seen harm minimization information in a club, compared with 8% of the Edinburgh subjects, it is not unreasonable to assume that increased contact with harm minimization programmes leads to increased knowledge.

The Effects of Knowledge on Behaviour

Knowledge is effective in reducing the harm caused by drugs only if it affects behaviour. The study indicated that a higher percentage of subjects within the less informed group (the Edinburgh group) also exhibited more dangerous behaviour. For example, 64% of the Manchester subjects would stop dancing if their heart was beating 'too fast', while only 36% of the Edinburgh subjects would do so. Moreover, 72% of the Edinburgh subjects had taken dangerous drug combinations, compared with only 40% of the Manchester subjects. Combinations described as dangerous were ecstasy combined with amphetamines or cocaine; these combinations greatly increase toxicity and so the risks.

Conclusions

In short, knowledge and behaviour do seem to correlate. Moreover, it would appear that harm minimization programmes, providing information, can change behaviour. These findings clearly point to the inportance of expanding harm minimization programmes providing information —and help. Making information more widely available would almost certainly reduce unsafe behaviour with regard to drug taking, encourage many users to give up the habit altogether and reinforce the decision of other young people not to use drugs. This would reduce the morbidity associated with drug use and lessen the strain on hospital services.

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Andrew M. Seddon, M.D.

Predicting Our Health: Ethical Implications of Neural Networks and Outcome Potential Predictions

'I'm sorry, Ben', Dr. Burroughs addressed the young intern. 'Mr. Carson's outcome percentage has remained below 25% for a week now. It's time to withdraw treatment.'

'But he's not ready to die!' Ben protested. 'He keeps asking me when he's going home.'

'I appreciate your feelings, but we are obligated to follow national guidelines. Treatment will be terminated today. See to it, Ben.'

Twentieth century technological ability is advancing at an astounding rate, not least in the medical profession. While developments in physics, cosmology, or geology may seem arcane, lacking practical application, advancements in medicine will affect all of us. Regrettably, much technology develops without an adequate ethical underpinning to provide guidelines for its usage.

The scenario above is, thankfully, futuristic. But it is not beyond the bounds of possibility if current research into computer predictions of outcome potential continues at its current pace. Artificial intelligence techniques known as neural networks are providing the medical profession with the ability not only to evaluate new therapies, monitor resource utilization, improve quality control, aid in triage and reduce hospital costs, but also to forecast individual patient risk—how a given patient will fare; their chances of living or dying.

Neural networks are an important advance in medical technology. But what are neural networks, and how should we as Christians respond to such novel approaches to patient care?

Artificial neural networks are computer systems modelled after and functioning in a manner analagous to the human brain; that is, they work in parallel, rather than sequential fashion. Different input variables (temperature, blood pressure, kidney function, etc), are assigned different 'weights' (importance); a processor then sums these inputs and provides output. Neural networks are 'trained' on a set of known data to learn the interaction between variables, and then tested on another set to ensure accuracy.[1,2,3]

The main capability of neural networks is pattern recognition. 'Artificial neural networks can be trained to recognize clinical patterns. Unlike the brain, such systems are not susceptible to bias toward recent or unusual events and do not suffer from emotional bias, fatigue, and distraction.'[1] Networks learn from experience, generalize from previous examples to new ones, and abstract essential characteristics from input containing irrelevant data. In short, they are able to disregard irrelevant data ('noise') to visualize an underlying pattern.[3]

Once trained, neural networks can be run on laptop computers or hand-held calculators, giving rapid answers to decision making questions.

Neural networks are not new. They have been used in engineering, finance, and computer technology. In medicine they have been assessed as aids in diagnosis, evaluating liver masses, low back pain, breast cancer and lung disease.

For example, a recent article in the *Journal of Family Practice* reported the use of neural networks to rate patients who underwent cardiopulmonary resuscitation (CPR). The network was found to be very accurate in determining which patients would not live to go home. 'Neural networks', declares the author, 'have the potential to bring artificial intelligence techniques to the personal computers of practicing physicians, assisting them with a variety of medical decisions.'[4] The article suggested that predictions made by a network would be of use in counselling families about the appropriateness of DNR (do not resuscitate) orders, and 'prevent needless morbidity and the misapplication of medical resources'.[4]

Along the same lines, a *JAMA* editorial remarked: 'A future and important possibility is that predictors may be used in individual patients to decide about admission and discharge, invasive monitoring or therapy, withholding or withdrawing burdensome interventions of little benefit . . .'[5]

A report on the highly accurate APACHE III prognostic system said that: 'Estimates [of risk for hospital death] during the course of therapy could be useful in investigating the optimal time for discharge or in deciding how long to continue therapy.'[6] Estimates of risk are offered as an adjunct to clinical judgement in determining futility of continued treatment, evaluating competing patients' requirements for intensive care services, and reducing unnecessary admissions of patients to either intensive care units or the hospital.

An example of how neural networks could function during evaluation for hospital admission is provided by a study which found neural networks to be superior to

physicians in diagnosing acute myocardial infarction (heart attack).[7]

Assuming that networks achieve a high-enough accuracy to make widespread use practical (an outcome that seems likely), how would physicians respond to having their patients' prognosis and therapeutic options outlined by a 'black box' whose workings seem obscure?[8] And how would patients respond to having their lives determined in this manner?

'Clinicians probably have more faith in the "human neural network" than in an "artificial neural network" because they are comfortable with the output of the human network and know that it is usually fairly reliable.'[9]

In a sense, physicians have always been predictors of the future, using clinical judgement to determine the severity of illness, its duration, and prognosis. This is precisely the aspect of medicine which proponents of neural networks wish to redress. Such judgements, determining treatment courses and affecting outcome, can be swayed by memories of past occurances and accumulated clinical experience. Outcome estimates are personal, and differ between attending physicians, nurses, and consultants.[10] This reliance on intuitive 'rules of thumb' is unacceptable to many: 'Physicians frequently make errors when estimating probabilities or when predicting specific patient outcomes.'[11]

The impetus behind these studies is to find a reproducible way of converting subjective estimates into purely objective indicators of prognosis. 'Are physicians' prognostic estimates accurate enough to be employed in making such momentous decisions as those to withdraw or withhold therapetic interventions from critically ill patients?' is the question being raised.[12]

Advocates of objective systems note that: 'In relying solely on human judgement, many severely ill patients and their families may have been harmed by pursuing normalization of physiology or by precipitating confrontation, at times when compassion and relief of suffering would have been a higher priority.'[13] 'Physicians as well as patients and families crave certainty in life-or-death situations where the implications of a decision based on an inaccurate estimate are profound.'[12]

That physicians may be concerned about the loss of autonomy, and having their judgement called into question, is recognized. 'Decision makers may feel that repeated application of recommendations based on a concrete model is "dehumanizing", depriving them of their role as a "it-is-my-opinion-based-on-my-experience" judgement.'[14] Others may '. . . perceive this activity as an attempt to replace decision making by clinicians with mechanistic algorithms'.[14]

One can also imagine a physician's decision being influenced—even if subconsciously—by predictions; perhaps even enough to become a self-fulfilling prophecy. To date, only one study has examined this, finding no indication.[15]

The potential for abuse is evident; neural networks are double-edged. Could network prognostication be used as absolute determinations for continuation (or discontinuation) of therapy in defiance of physician's or patient's wishes? 'Many observers are wary of prognostic science, for they fear that the numerical estimates will be converted into rigid standards, which will reduce clinical freedom . . .'[15]

Networks could be used to ration scarce resources by allocating care to those with the highest probability of survival, to 'assist clinicians in concentrating efforts on patients most likely to benefit . . .', or, alternatively, 'continue treatment in cases with better probabilities of survival than clinically anticipated'.[15] Could the use of networks be mandated by law? What influence would they have on physician reimbursement or litigation?

One researcher cautions that objective estimates could be 'misunderstood as decision rules, which might restrict rather than enhance clinical reasoning'.[13] He also points out another problem, and that is that risk estimates for patients with rare or unusual conditions may not be accurate.[6]

Warnings abound. 'Of course', says physician Mark Ebell, 'any predictive tool provides only prognostic information, and should never be the only resource used in decision making.'[4] Others echo the call for 'a larger decision making framework, one that explicitly acknowledges the fundamental roles of patient's preferences and values in clinical decision making'.[6]

We would rightly feel uneasy at entrusting life and death decisions to the provenance of a machine. We ought not to allow an artificial system to take over what is both our God-given responsibility and the responsibility of our profession. We must not abrogate our responsibility by allowing networks to make decisions for us. The conclusions reached by a network could be used not only to bolster decisions in accordance with our conscience, but to suport those weighing against the dictates of conscience.

Values such as 'productivity', 'quality of life', and length of life cannot be reduced to mere numbers or assigned some arbitrary value on a scale.

'Objective probability estimates will not resolve most ethical controversies', writes William Knaus. '[They] should also not be expected to overwhelm deeply held personal or religious beliefs.'[13]

As Christians, we must be concerned always to consider the wishes of patients and family, and combat the depersonalization of medicine. We can agree with Schneiderman's comments: 'We believe that that the goal of medical treatment is not merely to cause an effect on some portion of the patient's anatomy, physiology or chemistry, but to benefit the patient as a whole.' And, 'the ultimate goal of any treatment should be improvement of the patient's prognosis, comfort, well-being or general state of health.'[16]

It is important to consider prayerfully any decision. God cannot be confined to a black box or constrained by a computer programme, no matter how sophisticated. His mind and will cannot be discerned by a neural network.

We should applaud and utilize technology that enables us to dispense with ineffective or questionable therapy that does no more than increase a patient's financial, physical or emotional burden. Similarly, aids to determining the efficacy of new therapy and improving diagnosis should be welcomed. We cannot protest against issues of social justice that seek to ensure that

benefits and burdens of the health care system are allocated fairly. Reducing costs in our over-burdened system is necessary to its continued functioning.

But we cannot acquiesce to anything—no matter how well-meaning—that usurps the decision making ability of patient, family and physician, leaving life and death decisions to the domain of an impersonal agency, separating the bonds of trust that link physician, patient and God. Avenues for the use of human discretion must always be available.

It is necessary to adhere to a firm foundation of ethical guidelines grounded in scripture and Christian belief.

Christians need to be in the forefront of developing technology, keeping our profession one that glorifies God; and, as consumers, be alert to changes that may not always be for the best.

'Anything you did for one of my brothers here, however insignificant', says the Lord, 'you did for me' (Mat. 25:40 Revised English Bible).

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Dónal P. O'Mathúna, Ph.D.

Did Paul Condone Suicide? Implications for Assisted Suicide and Active Euthanasia[1]

The morality of assisted suicide and active euthanasia is widely disputed today.[2] Jack Kevorkian has been vocal in legal and public settings, but has recently started to bring his message into the church. One pastor who invited him to speak at his church said, 'The belief of many Christians that suicide is a mortal sin is a fallacy borne of politics instead of theology. It is a hoax that's been hoisted upon us by the institutionalized church. It's just not true.'[3] Two recent popular books (*A Noble Death* by Arthur Droge and James Tabor,[4] and *What Does the Bible Say About Suicide?* by James Clemons[5]) provide justification for this position.

The argument goes that even though the Bible describes a number of suicides, it nowhere condemns the practice. These authors note that suicide was commonly practised and highly regarded among ancient peoples. They claim that Augustine's writings led to suicide being viewed as one of the three unforgivable sins (the others being blasphemy and adultery). But Augustine, in their view, used Aristotle's philosophy more than Christian theology to argue against suicide. Even then, he was more interested in labelling the Donatists, a rival group, as heretical.

Both books demonstrate clearly that the Bible does not teach that suicide is an unforgivable sin. However, they go too far when they claim that Christians should be very slow to view suicide as wrong. Turning to Paul's view of suicide, Droge states in another article:

> What if Paul reached the position of failing health or old age, so that he could no longer carry out his divine commission? Then I think it equally possible that Paul would have committed suicide and done so with a clear

conscience and with the expectation that he would pass into immortality, united with Christ.[6]

Clemons similarly claims that Paul 'had no immediate sense of wrong-doing in contemplating his self-chosen death'.[7] While he is cautious in applying his conclusions, his argument leads in the same direction. The implications should be very clear. If suicide is not wrong for a Christian, it would be hard to argue against assisted suicide or active euthanasia.

Droge condenses his position to three main arguments. We will deal with his first and third arguments briefly. His first point is that suicide was commonly practised and approved of in Paul's day. Many accounts of suicide in the literature of the time, including the Bible, do not condemn the practice. His third point is that, 'The mystery surrounding Paul's death suggests the possibility that he may have committed suicide and that knowledge of the event was suppressed in the New Testament as well as in apocryphal writings.'[8] But these two arguments negate one another! Why would the early Christians not disclose Paul's suicide if that was an acceptable practice? Either it was hidden because it was not approved of, or Paul just did not commit suicide.

Droge's second argument will be the focus of this paper. He sees Philippians 1:19–26 as the key New Testament passage to support his view that Paul saw nothing wrong with suicide. Was this Paul's view?

The Context of Philippians

Paul wrote this letter from prison to encourage the Philippians. He points out that in spite of his apparently bad circumstances, the situation had become a great opportunity to spread the gospel. As a result, the whole praetorian guard had heard the message of Christ (1:12–13). In addition, although some were preaching Christ for selfish reasons, the gospel was still being proclaimed. This gave Paul great joy and confidence as he turned to reflect on his own situation, and whether imprisonment would lead to his freedom or death.

Paul declares:

> For I know that this shall turn out for my deliverance through your prayers and the provision of the Spirit of Jesus Christ, according to my earnest expectation and hope that I shall not be put to shame in anything, but that with all boldness, Christ shall even now, as always, be exalted in my body, whether by life or by death (Philip. 1:19–20).

No matter what happens, his goal is to see Christ exalted. This resembles the confidence of Shadrach, Meshach and Abednego as they walked into the fiery furnace, knowing that God would remain with them and be vindicated, either in their living or their dying (Dan. 3).

But then we get to the controversial passage.

> For to me, to live is Christ, and to die is gain. But if I am to live on in the flesh, this will mean fruitful labour for me; and I do not know which to choose. But I am hard pressed from both directions, having the desire to depart and be with Christ, for that is very much better; yet to remain on in the flesh is more necessary for your sake. And convinced of this, I know that I shall remain and continue with you all for your progress and joy in the faith, so that your proud confidence in me may abound in Christ Jesus through my coming to you again (Philip. 1:21–26).

Paul's situation leads him to contemplate his future. He may be released from prison, and continue his ministry with the Philippians. On the other hand, he may die soon. But we are not told how he might die. The traditional interpretation is that he may be martyred if the verdict of his trial goes against him. Droge's view is that Paul is considering killing himself. 'I do not know which to choose'—life or death—certainly does sound like someone contemplating suicide! Which interpretation is more accurate?

Why is Death of Gain (1:21–23)?

Everything in Paul's life revolves around Christ and spreading Christ's message. As one commentary puts it:

> Life is summed up in Christ. Life is filled up with, occupied with Christ, in the sense that everything Paul does—trusts, loves, hopes, obeys, preaches, follows, and so on—is inspired by Christ and is done for Christ. Christ and Christ alone gives inspiration, direction, meaning and purpose to existence . . . . Paul can see no reason for being except to be 'for Christ' (Rom. 14:7–9).[9]

But this does not result in Paul clinging to physical life with all his vigour. I can attest from past personal experience that committed athletes love to exercise and take care of their bodies. However, they recoil at the idea of injury or a time when they will no longer be so strong or fast. Our society tends to worship youthfulness and health, and then cannot come to grips with aging bodies and death. Medical technology has been used to help maintain our denial of death. These attitudes are linked to the current demand to legalize assisted suicide and active euthanasia.

But this is not the case for Paul. In spite of his passion for physical life, he does not recoil at the idea of death. In 2 Corinthians 5:1–10, Paul states that while we are in our physical bodies we are, by comparison, absent from the Lord. Droge claims that this passage shows how much Paul longed to die.[10] However, the Greek in vv. 2–4 clearly shows that what Paul wants is to be alive at Christ's Second Coming.[11] Rather than want to die, or deliberately take his own life, Paul wants to be with Christ. Since death brings closer union with Christ, Paul tells the Philippians that it is 'gain' (1:21) and 'very much better' (1:23). He shows why Christians do not have to fear death (Heb. 2:15). We know that it cannot separate those who are in Christ from the love of God (Rom. 8:38). It brings a new depth to our relationship with Christ.

Some authors have proposed other reasons why Paul sees death as gain. D. W. Palmer gives many examples of ancient Greek and Roman literature which viewed death as a legitimate way to escape the sufferings of this world. In commenting on our passage, he says: 'If death is a

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associated with natural inclinations in all but two of its 38 occurrences in the New Testament.[27] When Paul speaks of praiseworthy desires, he uses the term *epipotheo* (e.g. Rom. 15:23; 2 Cor. 5:2). It seems that while Paul views one of his options as highly desirable, it is not entirely praiseworthy.

The More Necessary Option (1:24)

Paul views death as 'gain' and 'much better', but the alternative is 'more necessary' (*anangkaioteron*). This term conveys the idea of compulsion, but not due to external force.[28] It is the type of necessity that arises because of God's involvement in our lives and the world. Paul uses this word group to describe the necessity of being subject to our governments (Rom. 13:5), and the compulsion which he experienced to preach the gospel (1 Cor. 9:16). In our passage, this word implies that Paul saw the option of his continuing to minister to the Philippians as closely linked to God's will for his life.

Droge makes much of the fact that the same word was used by Socrates in his influential discussion of suicide. According to Plato, Socrates held that people should not take their own lives unless they had received a divine *anangke* to do so.[29] This view was commonly held in Paul's day. Droge concludes that since Paul's *anangke* was for ministry in this world, he could not commit suicide. 'It is not the case therefore that Paul rejects suicide *per se*, only that it is not (yet) the proper context for such an act.'[30] But given different circumstances Paul could believe it was his time to die.

Some of the possible circumstances which Droge thinks would have led Paul to commit suicide are:

believing his missionary work was finished;
believing the necessity to minister was now removed;
becoming convinced that he had fought the good fight and finished the race, so that it was now time to depart;
failing health or old age preventing him from carrying out his divine commission.[31]

These, with the relief of suffering, are exactly the same types of reasons given to support the need for euthanasia. If Paul saw these as valid reasons to take his own life, surely Christians today should support people's requests to die and even assist them in dying. Assisted suicide and active euthanasia would seem to be valid options so long as people believe it was God's will for them to die, or their suffering had become unbearable and meaningless.

But this view depends on the assumption that Paul felt it necessary to remain alive only under his current circumstances. Some believe Paul would not want this passage applied to others, regardless of their circumstances.[32] However, Dailey shows that this is not in keeping with the nature of Paul's letters. 'Certainly his reflection arises from a personal, individual experience, but this reflection becomes teaching when he publicly manifests its content to the entire community by means of the particular character of an epistle.'[33]

Our passage comes within a discussion of the gospel, and is immediately followed by a call to act in a manner worthy of the gospel (1:27). This shows the importance and general applicability of what Paul is saying. He tells the Philippians they will experience similar conflict because they also will suffer for Christ (1:29–30). Later, he specifically tells them to have the same attitude as he does and to follow his example when dealing with suffering (3:15, 17). Thus, whatever this passage teaches, it does apply to all Christians.

Paul is Convinced (1:24–26)

Yet from the midst of being unsure which way to turn, we find that suddenly Paul is convinced. What has he become convinced of, and why?

Most obviously, Paul is convinced that God wants him to remain alive. This cannot be confidence in knowing the future. Although he says he will come to the Philippians in v. 26, in the next verse he says that he may or may not come. While convinced in v. 25 that he will not die, he again sees this as a possibility in 2:17. Paul is like the rest of us: he does not have clear insight into the future. He is convinced that God wants him to live, but he remains open to whatever may actually happen.

In the broader context, Paul is also convinced that Christ will be glorified through him. He has already seen his imprisonment turn out for good. The selfish preachers did spread the gospel. Rather than show that Paul looked favourably on choosing one's own death, this passage shows that Paul had given complete control of his life to God. The Greek words we have examined emphasize that Paul was not in control of his circumstances. The necessity to live was determined by God, not Paul. Paul is not like today's autonomous individuals who claim the right to control their bodies, to avoid pain and ageing, and yet when defied, to end their lives. Paul's life was completely under the control of God; he was Christ's bond-servant (Philip. 1:1).

Knowing that God was in control, he was confident that things would work out for good for those who love God (Rom. 8:28). This means giving up the control we so desperately crave, and waiting on the Lord to act. It means relying on prayer and the guidance of the Holy Spirit, as Paul did (1:19; 4:6). It means tough discussions within the community of believers and the willingness to accept mature counsel (Prov. 20:18). God may reveal precisely what we should do, but so often we need to trust him and accept whatever does happen.

This gave Paul confidence that God would set him free to accomplish his will. It seemed clear to him that God still had much ministry for him to do on earth. In spite of his great desire to go be with the Lord, he was going to wait until he was called home (1 Cor. 6:19–20). To depart this life by one's own choice is to reject the opportunity for loving and glorifying God in our bodies. We can do this through what we say and do, or what others do for us. It can simply be our willingness to trust God and others in our final days.[34] Rejecting suicide shows the willingness to accept God's sovereignty and grace, and to depend on him for our lives.[35]

Conclusion

The New Testament speaks of an after-life in which believers will have intimate fellowship with God, and all

pain and suffering will be wiped away (Rev. 21:1–5). Droge points out that how an ancient school of philosophy viewed the after-life was a major determinant in its view of voluntary death, his word for suicide:

> The two schools with the strongest belief in an after-life (the Pythagoreans and Platonists) expressed the strongest opposition to voluntary death. In contrast, the Cynics and Epicureans, who did not believe in an afterlife, were prepared to defend the right of an individual to take his own life. In fact, it appears that the Cynics were prepared to die on the slightest provocation.[36]

It is ironic that Droge then claims Paul's strong belief in the after-life led him to 'lust after death'.[37] The Bible never uses the hope of the after-life to devalue this life. It emphasizes the significance of this life, and the service we can give others in this life.[38] Our bodies may become weak and pain-ridden, but they are not to be seen as worthless or useless. They remain gifts from God through which he can be glorified (1 Cor. 6:20; Philip. 1:20).

Paul tells us to consider others of more importance than ourselves and to look out for the interests of others (Philip. 2:3–5). This was Christ's attitude and we should imitate him. We can continue to serve others even in our illnesses and in our dying. For example, we can pray for others, or witness to the hope that is within us. There are always relationships which can be healed or deepened.

This is the challenge which lies before us as Christians. When healthy, are we more interested in serving the needs of those who are ill and dying? That will help them to want to live. When ill and dying, do we think about the needs of others? How we face death can be our final gift to those who survive us.[39] This is how our lives and deaths can bring glory to God, and take away the desire to hasten death.

Suicide and euthanasia deny all this. As Martin states:

> If death were the answer to all hope, we would think that Paul would desire death, but this is not what we find. Rather, he considers it still an enemy (1 Cor. 15:26). He is thankful that he has escaped death ([2 Cor.] 1:10) and he desires to finish his ministry in this life (Phil. 1:20–24; 1 Cor. 9:23–27).[40]

Those who have a deep relationship with Christ will be better able to accept their time of death when it comes. They do not have to fear annihilation or the unknown. They will be going home to be with their Lord whom they love so much (2 Cor. 5:6–8). This does make death more gentle. It is a time of release from these bodies which groan and ache (Rom. 8:23; 2 Cor. 5:4). It takes us closer to receiving our new bodies which will no longer experience pain, illness, or death (1 Cor. 15:42-44; Rev. 21:4). Trust in this truth should remove our fear of death (Heb. 2:15).

But contemplation of the after-life should lead to a greater desire to please the Lord in this life (2 Cor. 5:9; Rom. 14:7–8). This is done by serving others, and suffering with our fellow sufferers. As we do this, our relationships with Christ will deepen further, and we will desire to be with him even more (Philip. 3:8). But we should also desire that others come to know the Lord, and love him as we do. This will give us perseverance as our deaths approach.

In Philippians 1:19–26, Paul acknowledges that death can look very attractive. The desire to die can be strong. But Christians should turn aside from that temptation, as he did, and find ways to love others and glorify God.

1. Originally presented at the conference 'The Christian Stake in Dignity and Dying', Center for Bioethics and Human Dignity, Deerfield, Illinois, 13–15 July, 1995.
2. Assisted suicide and active euthanasia involve the administration of a lethal dose of substance with the intention of causing death. They differ in who administers the dose: in the former, it is self-administered, while in the latter it is given by another, often a physician. The withholding or withdrawing of life-sustaining medical therapy involves different ethical issues if the intention is something other than hastening death and is not the subject of this paper.
3. Thomas Egglebeen, quoted in 'Kevorkian in church to kick off push to legalize assisted suicide', *Columbus Dispatch* (31 January 1994), 3A.
4. Arthur J. Droge and James D. Tabor, *A Noble Death: Suicide and Martyrdom Among Christians and Jews in Antiquity* (San Francisco: Harper-Collins, 1992).
5. James T. Clemons, *What Does the Bible Say About Suicide?* (Minneapolis: Fortress Press, 1990).
6. Arthur J. Droge, 'Did Paul Commit Suicide?' *Bible Review* 5 (December 1989): 20.
7. Clemons, 70.
8. Droge, 'Did Paul Commit Suicide?' 14.
9. Gerald F. Hawthorne, *Philippians*, vol. 43 of Word Biblical Commentary (Waco, Tex.: Word Books, 1983), 45.
10. Droge, *Noble Death*, 122.
11. The verb *ependuomai* means to put on over (vv. 2, 4), while *enduo* means simply to put on (v. 3). Paul does not want to be found naked, i.e. without a physical body, as would seem to be the case for those who die before the Second Coming. He would rather be alive when Christ returns and have his physical body clothed over by his spiritual body. Gerhard Kittel, ed. *Theological Dictionary of the New Testament*, trans. and ed. Geoffrey W. Bromiley (Grand Rapids: Eerdmans, 1964), 2:319–21.
12. D. W. Palmer, ' "To Die Is Gain" (Philippians i 21)', *Novum Testamentum* 17 (1975): 218.
13. Arthur J. Droge, '*Mori Lucrum*: Paul and Ancient Theories of Suicide', *Novum Testamentum* 30 (1988): 280.
14. Droge, *Noble Death*, 120.
15. Droge, '*Mori Lucrum*', 283.
16. Rodney R. Reeves, 'To be or not to be? That is not the question: Paul's choice in Philippians 1:22', *Perspectives in Religious Studies* 19 (1992): 279.
17. Ralph P. Martin, *Philippians*, New Century Bible (Greenwood, S.C.: Attic Press, 1976), 75–80.
18. Kittel, 1:718.
19. See the New English Bible, Revised Standard Version, Goodspeed, Knox, or Moffatt cited by Hawthorne, 47.
20. Colin Brown, ed. *New International Dictionary of New Testament Theology* (Grand Rapids: Zondervan, 1986), 1:533.
21. Kittel, 1:180.
22. Hawthorne, 48.
23. Maurice Jones, *The Epistle to the Philippians*, Westminster Commentaries (London: Methuen, 1918), 21.
24. Ralph P. Martin, *The Epistle of Paul to the Philippians*, rev. ed., Tyndale New Testament Commentaries (Grand Rapids: Eerdmans, 1987), 77.
25. Kittel, 7:883–5.
26. Droge, *Noble Death*, 122.
27. Brown, 1:457.
28. Kittel, 1:344–7.
29. Plato *Phaedo* 62C; cited in Droge, *Noble Death*, 22, 122.
30. Droge, '*Mori Lucrum*', 283.
31. Droge, 'Did Paul Commit Suicide?' 20.
32. Most prominent among these scholars is Albert Schweitzer. See Thomas F. Dailey, 'To Live or Die: Paul's Eschatological Dilemma in Philippians 1:19–26', *Interpretation* 44 (1990): 21; and Palmer, 204.
33. Dailey, 21.
34. Stanley Hauerwas, *Suffering Presence: Theological Reflections on*

Medicine, the Mentally Handicapped, and the Church (Notre Dame, Ind.: University of Notre Dame Press, 1986), 106.
35. Karl Barth, *Church Dogmatics* (Edinburgh: T. & T. Clark, 1961), III:4:407.
36. Droge, *Noble Death*, 43.
37. Droge, *Noble Death*, 122.
38. Lloyd R. Bailey, Sr., *Biblical Perspectives on Death* (Philadelphia: Fortress Press, 1979), 101.
39. Edmund D. Pellegrino, 'Physician-Assisted Suicide: A Debate and Public Forum', Lecture at the conference 'The Christian Stake in Dignity and Dying', Center for Bioethics and Human Dignity, Deerfield, Illinois, 13–15 July, 1995.
40. Ralph P. Martin, *2 Corinthians*, vol. 40 of Word Biblical Commentary (Waco, Tex.: Word Books, 1986), 106.

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Dennis Hollinger, Ph.D.

Theological Foundations for Death and Dying Issues

There are many forces that shape our ethical judgements and moral actions in the issues surrounding death and dying. But perhaps none is greater than our world view. Moral reflection and choices are determined not only by the virtues espoused or principles utilized, but also by the larger perceptions of reality in which those virtues or principles reside. Our world view is reflected in both the stories we tell[1] and the discursive constructs we set forth about the nature of things. Our views of reality, however, are not merely descriptions of the way things are, but also embody moral oughts and character obligations.

When we deal with death and dying issues we are immediately confronted with world view, and hence theology. Definitions of death, judgements about treatment termination or futility, and moral arguments surrounding euthanasia are deeply intertwined with our theological assumptions. It is nearly impossible to grapple with these ethical issues without significant engagement in matters such as: the nature of life, the nature of death, the meaning of suffering, the meaning and limits of human agency, and the nature and actions of God. How we describe these theological/world view issues or what narratives we utilize to reflect them, provide the major context for determining our moral choices in death and dying.

When we begin to construct a theology for the ethical issues of death and dying, one is struck by the paucity of theological engagement with death. If death is a topic in systematic theologies, it is usually very brief and lacking in the same depth that accompanies other theological topics.[2] But the contemporary ethical issues that attend the end of life call for clear theological reflection. In particular they beckon us to theological analysis of the nature and meaning of death, the nature of suffering, and the role of human agency or stewardship in relationship to God's providence and power.

In reflecting on these three theological issues it seems to me that they are best understood in creative tensions. That is, that in the Bible sometimes several tenets or understandings are held together and ought not to be severed from each other. As we work at ethical issues like treatment termination or euthanasia these theological tensions give us perspective and boundaries. Most of us don't like tensions, whether it be in relationships or in thought. But when Holy Scripture holds together two theological verities, we should not sever them; we must uphold the tension. Specifically we will examine three

theological tensions as guidelines and boundary markers for our work in ethical issues of death: death as friend and foe, suffering as challenge to persevere and opportunity to overcome, and divine providence in relation to human stewardship.

Death as Friend and Foe

Many Christians see death only as foe. For these people death is not only the great enemy that will one day be destroyed, but the great enemy that we face now in life. This view is set forth by Larry Richards and Paul Johnson when they write, 'Theologically death is so intimately entwined with our sinful condition, both as a result of sin and as an evidence of its relationship-destroying power, that we can never lightly view its approach or even welcome death as a doorway to eternity.'[3] There are also secular versions of this view of death, such as the work of Thomas Hobbes who built his philosophy on the premise that death is the greatest of all evils.[4] The ethical implication of such a theology is medical vitalism, the view that we must use all means at our disposal to ward off death. If death is only the enemy, acceptance will be difficult whether as a patient, health care practitioner or ethicist. The logical conclusion is always to use every means possible to keep the dying person alive.

For other thinkers, mostly non-Christians, death is only a friend. It is simply a part of nature that we ought to regard with indifference, as the ancient Stoics put it, or with natural acceptance in the journey of life as some modern therapists put it. In our era this view of death is exemplified by the death and dying movement led by psychologists such as Elizabeth Kubler-Ross, Avery Weisman, and Edwin Shneidman. Death in this perception is primarily an opportunity for growth, and should not be accompanied by fear or sadness. Humans should see and experience death, according to Kubler-Ross, as a 'peaceful cessation of the functioning of the body. Watching a peaceful death of a human being reminds us of a falling star; one of the million lights in a vast sky that flares up for a brief moment only to disappear into the endless night forever.'[5] Such a world view is part of a larger school of psychology focusing on human potential or self-actualization, and reflects what Donald Browning has called a 'culture of joy'.[6] The ethical implications of this view are to openly accept death without qualification or even to hasten death when reasons for living are no longer apparent. The logical connection between this view of death and euthanasia are obvious.

Neither of these perspectives on death, taken by themselves is adequate, for neither does justice to the whole of biblical teaching. Biblically and theologically we must view death as friend and foe and not isolate one from the other.

Human death as foe is of course quite evident in the biblical story. Death is generally understood by Christians to be the separation of the physical body and the soul,[7] but that separation is intimately linked to human sin. In the Garden of Eden Adam was told that he 'must not eat from the tree of the knowledge of good and evil, for when you eat of it you will surely die' (Gen. 2:17). In the New Testament the apostle Paul makes a clear connection between the sin of Adam and human death. 'Sin entered the world through one man, and death through sin, and in this way death came to all men, because all sinned' (Rom. 5:12). In arguing for the reality of Christ's resurrection as a foretaste of the believer's future resurrection, Paul says, 'For since death came through a man, the resurrection of the dead comes also through a man' (1 Cor. 15:21). As a result, 'The sting of death is sin', and 'The last enemy to be destroyed is death' (1 Cor. 15:56, 26).

There has been some theological debate as to whether these passages mean that there would have been no physical cessation of life without the human fall into sin. Some have argued that the entrance of sin changed the nature of death and certainly brought spiritual death, but that even without the fall there would have been the natural biological process of the life cycle which moves from the inception of life, through various stages, to its conclusion. That is, even without sin humans would have ended their biological life in time and space. Karl Rahner, the Roman Catholic theologian, has spoken of 'a death without dying' which would have been 'pure, apparent and active consummation of the whole man by an inward movement, free of death in the proper sense, that is, without suffering any violent dissolution of his actual bodily constitution through a power from without'.[8] Other theologians, however, have contended that physical death per se, not just its sinister components, is the result of sin. Millard Erickson, for example believes that passages like Romans 6:23 'The wages of sin is death', have been misused to support the linkage of physical death and sin, but nonetheless 'physical death was not an original part of man's condition'.[9]

Whatever our perspective on that theological debate, we must acknowledge that the scriptures are clear in their linkage of sin and death. Death, at least as we all experience it in human life, is antithetical to God's original intention and to the resurrected life experienced in the eschaton. Therefore, death is a foe that is associated with despair (Ps. 88:15), anguish (Ps. 116:3, 2 Sam. 22:5–70), fear (Heb. 2:15) and the valley of the shadow (Ps. 23:4). Before death we tremble and stand in awe of its mysterious, haunting power.

But death in the Bible is also a friend. Though the friendship language may overstate the case, death is portrayed as the natural end of life, albeit in a fallen condition. It is being 'gathered to my people' (Gen. 49:29,33; 25:8), 'breathing his last . . . at a good old age' (Gen. 25:8; 35:29), and returning to the ground, for 'dust you are and to dust you will return' (Gen. 3:19). Death is 'the destiny of every man' (Eccles. 7:2; cf. Heb. 9:27) and the time for one's 'departure' after having 'fought the good fight' (2 Tim.4:6). These and other texts seem to connote that death is a natural process that comes after we have journeyed through life.

At times in the Bible death is viewed as hope and longed for with great expectation of entering into the presence of God. The Psalmist could write, 'Precious in the sight of the Lord is the death of his saint' (Ps. 116:15), and the apostle Paul, contemplating the possibility of his own death, expressed a sense of feeling torn between

living and dying: 'For to me, to live is Christ and to die is gain. If I am to go on living in the body, this will mean fruitful labour for me. Yet what shall I choose? I do not know! I am torn between the two: I desire to depart and be with Christ which is better by far; but it is more necessary for you that I remain in the body' (Phil. 1:21–24). Paul's perception of death as friend is not a death wish because his physical condition overwhelmed him, but is rather a longing to see his Lord. It is this 'hope' for the believer which makes death the enemy, more than just palatable, but at times an experience of great joy amidst the sorrow of leaving this temporal world.

The early church was therefore able to live with both the tragedy and victory of death. As Peter Davids writes: 'The death of martyrs could be celebrated and the death of the faithful, while sorrowful, could be spoken of with confidence and joy . . . . Death was not denied nor sorrow suppressed, but death was seen as hopeful, an event in Christ, an event for which one could prepare.'[10] In a similar vein, C. S. Lewis contrasting the Christian view of death with common natural understandings, argues that there is an 'ambivalent' perspective in Christianity: 'It is Satan's great weapon and also God's great weapon: it is holy and unholy; our supreme disgrace and our only hope; the thing Christ came to conquer and the means by which He conquered.'[11]

What does it mean for contemporary bioethical issues that death is both friend and foe? Holding the two in creative tension precludes any radical answers to moral issues such as treatment termination or euthanasia. On the one hand it precludes the vitalist assumptions which err on the side of maintaining physical life through burdensome treatment, long past the point where there is any real benefit to the dying patient. Because the medical profession is trained to heal and thwart death, there are clearly times when heroic measures have gone way beyond the point of benefit and have unnecessarily prolonged life or even caused greater suffering. Refusing to allow death to come in the course of time is every bit as much 'playing God' as attempting to control the timing and means of death. Withholding or terminating treatment when death is immanent (and the medical procedures would unduly prolong the person's life), is distinct from actively inducing death, for there is a clear recognition that ultimately, 'The Lord gave and the Lord has taken away' (Job 1:21). Medical vitalism then is wrong because it upholds the foe side of death, but not the friend side.

But the creative tension of death also precludes active euthanasia or assisted suicide. Euthanasia advocates have embraced death as friend but have lost sight of death as enemy. They have too readily embraced death as being merely the natural end of life. Euthanasia proponents not only usurp God's sovereign control over life and death, but fail to recognize that death is a powerful, mysterious enemy that is not welcomed without qualification. It fails not only to affirm the biblical teaching regarding the 'last great enemy' which will one day be destroyed, but to acknowledge the experience of people in the face of death—it is an enemy which vexes our deepest emotions, sets asunder our dearest relationships, and leads us to our most profound encounter as we stand face to face with the creator of the universe, to receive reward or judgement.

A theology of death for moral issues must hold together death as friend and foe. Such a theology is beautifully set forth by John Donne in one of his Holy Sonnets:

> Death, be not proud, though some have called thee
> Mighty and dreadful, for thou art not so;
> For those whom thou think'st thou dost overthrow
> Die not, poor Death, nor yet canst thou kill me.
> From rest and sleep, which but thy pictures be,
> Much pleasure; then from thee much more must flow,
> And soonest our best men with thee do go,
> Rest of their bones, and soul's delivery
> Thou art slave to fate, chance, kings, and desperate men,
> And dost with poison, war, and sickness dwell,
> And poppy or charms can make us sleep as well
> And better than thy stroke; why swell'st thou then?
> One short sleep past, we wake eternally
> And death shall be no more; Death, thou shalt die.[12]

Suffering as Challenge to Persevere and Opportunity to Overcome

The death and dying process inevitably involves suffering. How we view suffering is a major factor in our ethical positions surrounding death and dying. There is an intimate connection between our theology of suffering and our ethics of treatment termination, futility and euthanasia.

Suffering has long been a major source of philosophical and personal anxiety. The issue of theodicy raises questions about the character of God, for if our maker is all-powerful and all-loving why do pain and suffering exist? While the theodicy issue is extremely important for our trust in God and his son Jesus Christ, our focus here is somewhat different. It is not the philosophical question of why a good, powerful God allows suffering, but rather the biblical/theological issue of how we respond to suffering.

John Kilner has noted two commonly accepted assumptions about suffering which can profoundly shape one's approach to health care. 'One is that suffering is an unqualified evil; the other is that suffering should be removed at all costs.'[13] Both, however are far removed from the biblical understanding in two ways. First, each view is too drastic and extreme, and second each is divorced from the other. These distortions in world view or theology of course lead towards two moral directions: a too rigid acceptance of suffering which may unnecessarily prolong suffering and death, or a too easy acceptance of death as the remedy for suffering. In contrast to these approaches, Christian theology upholds suffering as a challenge to persevere and an opportunity to overcome.

Suffering in the Bible is seen as a challenge to endure and persevere, for out of the affliction comes potentially good results for the person, society and God's kingdom. This does not mean that humans are to seek suffering or trials and tribulation, but we are encouraged to find joy in

the midst of them, for 'you know that the testing of your faith develops perseverance. Perseverance must finish its work so that you may be mature and complete, not lacking anything' (Jam. 1:3–4). We are called to persevere in suffering, because it can result in spiritual growth, depth of character, and courage for living. In and of itself suffering and pain are not moral goods, for they are clearly results of the fall. But as an inevitable part of life that all humans know, suffering in the hands of God's providence can be used for good. While this is an explicit understanding of Christian theology, it is an insight that goes far beyond the scope of Christianity and special revelation; humans through experience have recognized the potential benefits of affliction and difficulty.

The book of Job is of course the most powerful rendition in the Bible of the mystery of suffering. Job in his physical suffering, and then inter-personal anguish through his 'friends'' accusatory advice, never receives a philosophical response to the age-old question of why God allows suffering or why he personally has experienced such calamity and physical pain. His speculations continue on. But in the end, after God has spoken out of the storm and given him a tour of his majesty and glory in the universe, Job comes to a new understanding of God and life: 'I know that you can do all things; no plan of yours can be thwarted' (Job 42:2). Job has come to experience something of what the apostle Paul says in Romans 5:3–5: 'We know that suffering produces perseverance; perseverance, character; and character hope. And hope does not disappoint us, because God has poured out his love into our hearts by the Holy Spirit, whom he has given us.'

Such texts do not mean that suffering is easy. But they do imply that the external or physical conditions of our being are not to be the primary determiners of our own contentment and meaning in life (cf. Philp. 4:11–12). Paul knew the anguish of physical and relational circumstances, and even asked the Lord to remove such suffering ('thorn in my flesh') from his life. But God's response was the hope given to all who live in this fallen world with its inevitable thorns and thistles; 'My grace is sufficient for you, for my power is made perfect in weakness' (2 Cor. 12:9). We are assured, therefore, that no matter how painful the physical, mental, or social malady, God's merciful power will enable us to withstand. Moreover, such circumstances do not destroy the essential reason for living or nullify the givenness of life granted by God. Suffering is a challenge to perseverance.

At the same time the Bible also implies that suffering is an opportunity to overcome. Suffering is to be endured with joy on the one hand, but there are clearly examples of prayers to remove and healings to alleviate painful sickness. Even our Lord in the face of his own death cried out to the Father, if possible to remove the suffering: 'Abba, Father . . . everything is possible for you. Take this cup from me. Yet not what I will, but what you will' (Mk. 14:36; cf. Heb. 5:7–9). Though he was fully God, Jesus being fully human entered into our sufferings even to the point of the cross. But his own endurance reflected what we all desire in the moments of pain, a possibility to overcome it.

The biblical teaching on healing is a clear example of the point that suffering is an opportunity to overcome. The healings of Jesus and the apostles were on the one hand 'signs and wonders' to validate the inauguration of the kingdom. But they were also clear expressions of mercy and love to people undergoing the trials of physical pain and illness. When a man with leprosy came to Jesus desiring healing of the dreaded disease, Jesus, 'filled with compassion . . . reached out his hand and touched the man' (Mk. 1:41).

Divine healing is accomplished in various ways. First, God heals though the natural process in that he has created our bodies and minds in such a way that there are built-in mechanisms to bring health and healing. When we have a wound or cut, the blood normally clots or coagulates to stop the bleeding. This is divine healing, for God made us this way. Second, God heals through the healing arts, the insights that humans have garnered over the years. Since all truth is God's truth, discoveries about the body, the mind, nutrition and medicine constitute a form of divine healing. Third, God heals through direct intervention. This is the kind usually designated divine, but here God directly intervenes into the ailment and brings healing in a miraculous way. And fourth, God heals through spirituality. In this type health and healing come to the mind and body by utilizing the spiritual resources available to us. Because we are whole beings, what happens in the spiritual domain affects the physical and the emotional.

All of these are theologically valid forms of healing, and all demonstrate that God is active in the world to alleviate suffering and pain. We too, as 'co-creators' with God are able to participate in his healing ministry which is a direct affront to the agony of pain and suffering.

To be sure there are many mysteries that surround suffering and physical pain. We may not fully understand why God allows it, or why God brings healing relief to one person, but not another. But we must hold in creative tension the biblical teachings that suffering is a challenge to persevere and an opportunity to overcome. As J. P. Kenny puts it, 'Christian morality freely admits that man may employ all the resources of nature to alleviate or to suppress physical pain. But it also maintains that suffering is not purely negative. Physical suffering can have religious overtones and supernatural value.'[14]

What does this theological tension mean for the ethics of death and dying? Like our first theological tension regarding death, this one precludes both euthanasia and the needless suffering of vitalism. Euthanasia proponents say yes to the one side of our tension, suffering as opportunity to overcome. They argue that assisted suicide is one of the ways to alleviate that suffering. But such thinking obscures the other side of the tension, namely that suffering is a reality of life which presents us with a challenge to perseverance.

Similarly, vitalism gives credence to one side of our tension, suffering as challenge to persevere. But in neglecting the other side it falls prey to needless suffering. When both sides of the tension are upheld, we can work to alleviate suffering in the dying patient and even welcome its alleviation through death. But we will not cause the death as a means of mitigating the suffering.

Divine Providence and Human Stewardship

Moral issues surrounding death and dying are intimately linked to our views of the interaction of God's power and human action. Some believe that humans have been granted the freedom and right to regulate the world, including matters of life and death. In such a world view euthanasia is often readily accepted on the grounds that it reflects our humanness. While it is a very modern view on the one hand it is also very old, for the Stoics argued much the same. As Seneca put it, 'As I choose the ship in which I sail and the house which I shall inhabit, so I will choose the death by which I leave life.'[15]

Others believe that God is in total control of the affairs of this world and humans have virtually no legitimate say over what transpires regarding life and death. Ideally, in this world we will not have to make decisions which affect death, for such decisions belong to God alone. Taken to its logical conclusion, this view would find it difficult to 'pull the plug' on a dying patient, for such decisions are not the domain of human beings.

When we examine the biblical teachings we find an affirmation of both divine providence and human stewardship.[16] Providence is the understanding that God is continually at work in preserving and guiding the created order towards the divine end and fulfilment. It need not imply, as is sometimes assumed, that all human and historical effects are directly caused by God. Rather it means that he is ultimately and finally in control. While humans can temporarily thwart the divine plan, providence assures us that God is at work even amidst the tragic elements of life, resulting from the fall, so that ultimately his plan is brought to fruition.

God is thus the ultimate giver and culminator of human life, as is exemplified in Hannah's prayer for a son; 'The Lord brings death and makes alive; he brings down to the grave and raise up' (1 Sam. 2:6). Providence is the theological assertion that our times are in God's hands (Ps. 31:15), and that finite creatures cannot usurp the role of an infinite all-knowing God.

But the Bible also portrays a theology of human stewardship. Though finite and fallen, humanity is given the task of being the caretaker of the earthly garden (Gen. 1–2). Because we have been made in his image, God has granted to us the responsibility of maintaining the created world, which is simultaneously upheld by his own hand. The creation mandate was to 'rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground' (Gen. 1:28). The Psalmist reflecting on God's majestic creation puts it this way:

> When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, what is man that you are mindful of him, the son of man that you care for him? You made him a little lower than the heavenly beings and crowned him with glory and honour. You made him ruler over the works of your hands; you put everything under his feet (Psalm 8:3–6).

Humans are called to be caretakers and decision-makers who must exercise wisdom in the use and allocation of all the resources that God places into our hands. Because of our fallenness we often misuse our freedom and create tragedy, ambiguity and chaos. But nonetheless we are moral agents to whom much has been given and from whom much will be required. As theologian Millard Erickson puts it, 'God's creative activity includes not only the initial creative activity, but also his later indirect workings. Creation does not preclude development within the world; it includes it. Thus God's plan involves and utilizes the best of human skill and knowledge in the genetic refinement of the creation. Such endeavors are our partnership with God in the ongoing work of creation.'[17]

Holding together human stewardship and divine providence, like the other two tensions we've examined, leads us to reject both euthanasia and vitalism. Euthanasia proponents accentuate human stewardship and agency, but negate providence. Conversely vitalism accentuates providence, but negates stewardship. The creative tension of divine providence and human stewardship can help us as Richard McCormick put it, 'to walk a balanced middle path between medical vitalism (that preserves life at any cost) and medical pessimism (that kills when life seems frustrating, burdensome, useless)'.[18]

Conclusion

The moral issues of death and dying will not go away. Increased medical technologies will only exacerbate the dilemmas, as we face new capabilities for extending life far beyond the past and present. Simultaneously, we will increasingly have at our disposal the possibilities of taking the initiative to end life. Control over life and death, once clearly the domain of God, is now through medical technology in the hands of a fallen humanity.

Our response to the moral dilemmas is, and indeed as Christians should be, deeply rooted in our world view. When Christians differ with secularists over the issue of euthanasia, it is fundamentally a world view or theological difference. It is therefore imperative that Christians in the medical professions, and the church at large grapple with the moral dilemmas from within an explicitly Christian framework. As we seek to make a dent in the culture, we will of course need to utilize broader forms of argument to preserve God's intentions for the human race. But our own reflections must begin with the biblical story and assertions that form the world view of believers.

In the face of death and dying issues we must hold together what humanity tends to pull apart: death as friend and foe, suffering as challenge to persevere and opportunity to overcome, and the dual affirmation of divine providence and human stewardship. These theological assertions do not solve every dilemma a physician or family of a dying patient faces. But they do provide a framework that can guide us to make wise decisions amidst the complexity and ambiguity we often face in death and dying issues. One the one hand they preserve us from playing God in biomedical ethics, but on the other hand they also prevent us from abdicating our

responsibilities as human stewards made in the very image of an all-powerful God.

1. This has been particularly articulated by narrative theory which is currently popular in a number of disciplines including, biblical studies, theology, literature and the social sciences. Narrative theology can be useful if it is not divorced from the propositional or discursive statement of the Bible and theology. For a helpful balanced view of narrative thought, see David K. Clark, 'Narrative Theology and Apologetics', *Journal of Evangelical Theological Society* 36–4(1994):499–515.
2. Karl Rahner, for example, notes, 'It cannot be said that the theology of death usually receives in scholastic theology the attention which the theme deserves.' Karl Rahner, 'Death', *Sacramentum Mundi: An Encyclopedia of Theology* (New York: Herder and Herder, 1968), Vol. 2, p. 58.
3. Larry Richards and Paul Johnson, *Death and the Caring Community* (Portland: Multnomah Press, 1980), p. 30.
4. See for example his best known work *Leviathan*, where he writes, 'A law of nature . . . is a precept, or general rule, found out by reason, by which a man is forbidden to do that which is destructive of his life, or taketh away the means of preserving the same, and to omit that by which he thinketh it may be best preserved' (1.14).
5. Elizabeth Kubler-Ross, *On Death and Dying* (New York: MacMillan, 1969), p. 276.
6. Donald Browning, *Pluralism and Personality* (Lewisburg, PA: Bucknell U. Press, 1980), p. 195. For a further analysis of these psycholgists and their view of death see Bonnie J. Miller-McLemore, *Death, Sin and the Moral Life: Contemporary Cultural Interpretations of Death* (Atlanta: Scholars Press, 1988).
7. See for example Ecclesiastes 12:7 and James 2:26. The future resurrection of the physical body in the eschaton is further evidence of this definition of death.
8. Karl Rahner, *On the Theology of Death* (New York: Herder & Herder, 1961), p. 42. For an overview of others who hold Rahner's view but on different grounds see the critical evaluations of John Kilner, *Life on the Line* (Grand Rapids: Eerdmans, 1992), pp. 99–103.
9. Millard Erickson, *Christian Theology* (Grand Rapids: Baker, 1983), p. 1170. Erickson believes this and passages such as Ezekiel 18:4, 20 are really about spiritual death and not physical death.
10. Peter H. David, 'Death', *Evangelical Dictionary of Theology* ed. Walter Elwell (Grand Rapids: Baker, 1984), p. 300.
11. C. S. Lewis, *Miracles* (New York: Macmillan, 1947), p. 130.
12. John Donne, 'Holy Sonnets, 10', *The Norton Anthology of English Literature* (New York: Norton, 1968), p. 520.
13. Kilner, p. 102.
14. J. P. Kenny, 'Euthansia', *New Catholic Encyclopedia*, vol. 5 (New York: McGraw-Hill, 1967), p. 640.
15. Seneca, *Laws* IX:843.
16. Holding together divine providence and human stewardship can be a significant corrective to some recent theological attempts to redefine a theology of God. Process philosophy and theology, for example, portray a dipolar theism in which one pole of God is limited and dependent upon actions within history. The creative tension can also be seen as potentially a corrective to some recent evangelical attempts to redefine God. See for example, Clark Pinnock et. al. *The Openness of God* (Downers Grove, IL: InterVarsity Press, 1994).
17. Erickson, pp. 385–386.
18. Richard McCormick, 'To Save or Let Die: The Dilemma of Modern Medicine', *Ethical Issues in Death and Dying* ed. Robert Weir (New York: Columbia University Press, 1977), p. 178.

Dr Calum MacKellar

The Biological Child

Abstract

During the last decades the issues concerning techniques of assisted conception have grown both in number and complexity. New possibilities provided by scientific research have raised the hope of many infertile couples and individuals to fulfil their deepest aspirations of giving birth to a child. Although the possible pain, psychological pressure, deception and, in some countries, financial burden, accepted by the hopeful parents are generally of extreme severity, the hope of obtaining a child containing as much of their own biological material as possible is the reason for the popularity of these new developments in procreation. Biological children have indeed generally been preferred to non-biological adopted children for reasons the present paper seeks to explore.

Introduction

At present different possibilities exist which come under the term 'assisted conception'. These possibilities vary both in the quantities and source of biological product found in the possible future child.

The following procedures are available to the potential parents:

1. Donated sperm:
Artificial insemination with donated semen (AID) assists couples where the man is infertile. The specimen is obtained by masturbation from an anonymous male donor. It is then injected into the future mother at the appropriate time.

2. Donated ova:
This possibility is the reciprocal solution given to an infertile woman. Similarly to AID an ovum is obtained from another woman through a surgical operation and transferred into the future mother though an *in vitro* fertilization.

3. Surrogacy:
There are two types of surrogacy. In one case another woman is responsible for both the ova and the full pregnancy before child birth; in the other the 'surrogate' lends her womb to gestate another couple's embryo; that is an embryo created *in vitro* using the gametes of the commissioning couple.

4. Embryo transfer:
The process is similar to surrogacy but the embryo from the surrogate mother and the official biological father is flushed out and reimplanted in the official future mother.

5. Embryo adoption:
The concept is the same as adoption with the infertile couple adopting an embryo conceived by another couple.

6. IVF:
In Vitro Fertilisation (IVF) is the procedure in which an embryo is conceived in the laboratory and then implanted into the uterus of the biological mother, the ova and the sperm coming from the natural parents. Here no other third or fourth party is involved.

I. Why Have Genetic Children?

Childlessness is often compared to a bereavement rather than to an illness. The deep pain through which a couple acknowledges their infertility is often severe, long lasting and profound. In order to understand this distress, one must first discover the origins of the desire for child bearing by the couple.

One of the strongest urges faced by all societies is to 'be fruitful and increase in number', but does this urge relate to some biological trigger in the brains of the couple, or does it satisfy needs which the couple feels children could fulfil?

Though an accumulation of numerous reasons are often given by hopeful parents for wanting children, the deep urge for child-bearing can remain hidden.

Even if most parents acknowledge children as something positive to which they aspire, some do not have deeper or well thought out explanations for this wish.

The possible reasons are:

1. Sociobiologism

For some modern biological theorists, the object of reproduction is described in terms of the building of bodies as survival machines which serve as vehicles for transmitting and replicating genetic information into another generation.[1]

Here the genes as such become the important entity in contrast to the human beings. The genes are considered to be programmed to replicate and survive through the generations. Reproduction and the desire to have children becomes the means by which the genes ensure their survival through the child's body and functions.

In this theory the compulsion to have children is programmed and encouraged through sexual relationships in the human being.

2. Belonging in Children

There is often a tendency in human and non-human beings to seek protection and comfort by means of belonging to a group offering similarities and acceptance. This is the case, for example, in families, tribes, clans and national communities which encourage the experience of belonging and of safety within the group.

The notion of belonging is also reflected in the desire most humans experience of knowing who they are and from where they came, exemplified in the importance people give to their family name, the knowledge of their roots in the past and their kinship identity. It is because of this need of identity that many adopted children try so often to discover their original genetic parents.[2]

The deep feeling of belonging is however reciprocal. One wants to love and belong to others while at the same time one enjoys others belonging to and loving oneself. This mutual exchange becomes the source of the deepest friendships and 'one-ness'. In the case of parents and children the important order which states that the giver and receiver of life BELONG together is fulfilled.

In Judeo-Christian thought, this principle was also the first experience borne by Adam, the receiver of life from God. In the same way each person through his ancestors, and ultimately through Adam, belongs to God the giver of human life.

That human beings are the children of God is also reflected in that, in a similar manner to the creator himself, humans are fascinated by the concept of giving life, be it to their children, to Dr. Frankenstein's monster or to Pinocchio. There exists a pride in being able to produce life, which in a way parallels God's pride in his creation. In the biblical order, humans beings were always expected to be co-creators, with God, of human life.[3] God with the help of the couple, co-creates a new child which they can love. The creation of a child therefore is not a solely parental achievement.

Here it is the life of the person that is important and not the replication of genes. Genes are the tools God uses to create his human children. He does not value the genes themselves nor the processes for their replication. For God, the giving of life should be synonymous with the giving of love. Love, creation[4] and mutual belonging irrevocably exist together.

Although these important questions of recognition of God as the source of life and the ultimate belonging to him of each person through their ancestors, are ignored and disregarded by most in our present society, they are not neglected in the planning of families by parents. The same patterns are present though sometimes unrecognized. Parents, as the responsible partners in the giving of life, know that in some way they belong to the child and the child in receiving life belongs to them.

The deep sense of loss or incompleteness by parents, unable to be directly responsible for the giving of life to their child, is the essential cause of their interest in assisted reproduction. They apprehend the possibility of their own inability to feel a sense of belonging to the child and the difficulties the child itself would experience in feeling that it did not belong to them. The costly and sensitive procedures considered by all families seeking artificial conception are a pointer to the importance they attach to biology.

Genetic terminology enters the discussion when the word 'life' is replaced with the word 'genes'. Though this approach could well be considered as reductionist, the possibility for the genes to be responsible, in a physical sense, for the body and character of their child, is not forgotten by the parents. The idea acknowledged is that

people of similar ancestry have been observed to have similar assets which would predispose them to understand and relate together to certain values and pleasures. Genetic similarities do, to some extent, regroup people into entities such as families where advantages in interrelationshps exist. It is easier to love, understand and relate to those who are similar or familiar to onself.

When a family becomes separated it is often the parts of that family sharing similar genes which stay in contact with each other. One hears that they are of the same blood, blood being in this case synonymous with genes. The idea that the blood tie or the gene bond is unbreakable, no matter what happens in a family or between parents and children, is also present in the security people obtain from these ties.

The strength of these bonds is reflected in the theological parallel which exists in that just as parents give of their bodies through their genes to create life, the Son of God gave of his body and blood to create a new life in his children. Indeed Jesus in the symbolism of wanting his disciples and his church to **belong to him and himself to belong to them**, used the *communion* to symbolize our adoption into 'one-ness' given through his 'blood' and 'body' representing the elements of life. Jesus took the bread, gave thanks and broke it, and gave it to his disciples, saying, 'Take and eat; this is my body'. Then he took the cup, gave thanks and offered it to them, saying, 'Drink from it, all of you. This is my blood of the covenant, which is poured out for many for the forgiveness of sins' (Matt. 26:26).

3. Pride in Children

Though most parents seek the best for their children to enable them to acquire advantages in the social competition for jobs, incomes, and the like, some, through the pride expressed for their children seek comfort and self-valuation.[5] These parents, in their insecurity common to all men, enjoy knowing that what one has created genetically and sociologically has been accepted and admired by society and the community.

It is therefore the parents themselves, through the unbreakable bond of belonging to their children, who are seeking security in their desire to be accepted by society.

4. Social Factors

In the parental desire for children other social factors are sadly present of which a brief outline should be given:

A. The saving of a relationship:
It is sometimes heard that a child was envisaged by a couple to enable a strengthening of their relationship which otherwise would have broken-down. The concept of children being used to repair a relationship is however fraught with risk and selfishness. The best interests of the child are no longer envisaged. Though children are a source of unity between the partners, they should never be used in this way or conceived for this reason. The deep relationship between the love of the partners and the love of the couple for their children no longer exists.

B. Conformity with Society
Some couples want children because they wish to conform to their peers and pressures from society. The child is then conceived to avoid any possible stigmatization which could be experienced. In late Jewish society children were indeed regarded as being a blessing and a gift from God (Ps. 127:3) and their withholding as a sign of Gods disfavour and a mark of disgrace and ridicule in society. Sarah (Gen. 16:1), Rebekah (Gen. 25:21) and Rachel (Gen. 29:31) in the Old Testament, and Elizabeth (Lk. 1:25) in the New, were all childless for much of their life. They suffered deeply because of this, and even expressed feelings of shame and disgrace (Gen. 30:23).[10]

C. A meaning in life
Finally, for some it is the feeling of being useful and the meaningfulness of creating a child that is the source of their hope for children. The child may give the parents a reason for existing.

In many of these previous cases the relationship of mutual belonging that should exist within a family transforms itself into a relationship of 'ownership' by the parents of the child. Altruistic feelings and care are only seldom, if ever, directed towards the child. The children become the means of providing personal satisfaction for one or both parents. The parents themselves would rarely envisage belonging to the child or consider the child's best interests and needs.

II. The Conception of Children

In Judeo-Christian theology the procreation of a new person, whereby the man and the woman collaborate with the power of the Creator, must be the fruit and sign of mutual self-giving by the spouses of their love and fidelity.[6]

The sexual act is experienced as a synchronized total and synergic self-giving of each partner to the other in which each receives more than they give, a representation of the union of two beings into one flesh. They are then never empty but filled with the other to form one reciprocal and complementary unity.

When any sexual relationship reflects exclusively mutual selfish desires by each partner, it can only be seen as contorted in the eyes of God. The creation *act* then becomes unholy and supremely devalued. Conception without self-giving and faithful love can only represent a caricature of the real essential relationship.

Self-giving should, moreover, be present when conception occurs with the formation of the new genome, defined as the entire genetic code, of the child. The resulting combination of the two genomes of the parents, represents in this unity the presence of reciprocal belonging between them and the child.

The giving of genes in this way also symbolizes for the parents the giving of love and of themselves to one another and to the child. The child becomes a gift presented by the unity of his parents of which he himself is also a part.

Though a person cannot be reduced to his human genome, his genome should certainly be the proof of the love of his co-creators.

In Roman Catholic theology there exists a unity between sexual relations and the desire for conception.

Every sexual encounter should have the potential for conception, and every conception the potential for childbirth and parenthood.[6]

In most Protestant theologies, however, self-giving through sexual intercourse and procreation are dissociated. Here the unity of the couple and their self-giving is the central aspect considered. Love and conception belong together though love, for love's sake is accepted as good.

III. Sexual Creation Ethics

Human creation should never be envisaged as being distinct or disrupted from self-giving love, be it by God in the creation of Adam and Eve, or by parents as co-creators with God during conception.

The foundation of mutual love by the co-creators does unfortunately not exist when human genomes are the result of conception procedures involving third or fourth parties.

AID, Donated Ova and Surrogacy would all be *acts* of contorted creation. They would as such not be acts of adultery, but of creation without mutual love by the co-creators. The child conceived as the result of gametal donation is not the fruit of marriage of conjugal love.[2] IVF on the other hand, as with embryo transfer, would be *acts* where the child would be created in loving unity, symbolized by his human 'gifted' genome.

The example of a recent Californian court case in which custody of a child conceived by surrogacy was disputed between the genetical mother and father and the surrogate mother who carried the pregnancy, enforces this distinction. The court of appeal upheld the initial decision where the judges decided that genes determine maternity, giving no weight at all to birth motherhood. The surrogate mother was comparable in the court's eyes to a nine month foster parent.[7,8]

IV. The Case of Adoption

The practice of adoption by parents either of children or of embyros is totally distinct from the *acts* of creation. Creation with all its ethical possibilities has already taken place. Though in adoption the unity of the co-creators and the child may be broken, God, as one of the co-creators, continues to deeply love the child.

Every adopted child carries with him, to some extent, the sad and difficult circumstances of the tearing apart of the unity with his biological parents. However the relying on the self-giving love, instead of genes, by the adoptive parents is what often makes the new bonds so powerful.

The situation is similar to that of Christians being adopted as children of God through his self-giving love after the separation of humanity from God in the Fall. Though strong genetic and 'blood' bonds may be broken, the bonds of love, which are stronger, continue.

This strength of adoption is also reflected in the fact that though the biological father of the incarnate human Jesus was the Holy Spirit and the Power of the Most High (Lk 1:35), Jesus—being the second Adam—took upon himself and adopted the broken human nature belonging to Adam, through the genealogy of his adopted human father Joseph, recorded in the Bible in Luke 3:23 'He (Jesus) was the son, so it was thought, of Joseph, the son of Heli, . . ., the son of Adam, the son of God.' Mary in this case was not accepting an artificial insemination with donated semen, since both God the Father and Mary herself were responsible for creating/incarnating the child Jesus whom they both loved. Christ was born of a virgin and his birth, brought about by the Holy Spirit, was a miraculous event and hence a supernatural intervention into what God had ordained as the natural order.

V. Future Possibilities

1. Twinning

The artificial twinning of a fertilized egg resulting in the creation of two or more children instead of one, would in fact be similar to what can at present happen in nature. If all the children created in this asexual way are welcomed in love to a strong family environment, no strong biological ethical problems would be envisaged. Creation with love by the biological parents does not exclusively require egg fertilization.

2. Cloning

The procedure of cloning consists of the replacement of the nucleus, containing the genetic material, of a pre-existing egg with that of a cell of a living being. The result is the asexual creation of an identical twin of the donor living being. Though this has already been possible with animals such as sheep, strong ethical opposition to this procedure with humans would be envisaged. Apart from many other problems, this asexual creation would be done without any normal perspective for the child. If this could be considered as some kind of twinning[9] it would be for the real genetic parents—the parents of the cell donor—to decide to create and love another twin. The donor twin himself should not take part in the decision. Again the best interests for the child itself should be put as a priority.

3. Ektogenesis

This procedure, where the embryo would grow entirely outside any living human uterus is not yet possible, though with children surviving in incubators from ever earlier births, one wonders how early this could possibly be achieved. Again this procedure would need strict assessment with respect to the best advantage for the child. The deep psychological bond which exists between the mother and the unborn child would certainly be broken with possible severe psychological consequences.

4. Total Synthesis

The days when the entire genome or large parts of it would be made artificially and synthetically are still in the distant future. The genetic make-up of the child would no

longer be the result of any parent of whatever kind. These future problems are, however, of a deeply complex nature and will be introduced only when more research has taken place.

The long line of reflective belonging, going back to Adam, Eve and God would be forever broken. The source of life would then be the minds of the genetic architects and their experimental skills. Though these children might be loved by society as a whole, they would be similar to orphans with only the love of God being present from the outset.

Conclusion

The important aspects of the desire by future parents to give birth to children containing their genetic material were discussed.

Though the consequences of childlessness contain feelings of deep distress and pain similar to bereavement, the interests, wellbeing and welfare of the child should be paramount.

The new possibilities in assisted conception should be welcomed for the assistance it can bring to childless couples. Any technique, however, that involves during the conscious act of conception, the genetic material of a third party different from that of the parents, would seriously disturb the Divine order of mutual belonging and love between the creators and the created.

It is because parents seek to solidify the bonds of love through genetics that these techniques of third and fourth party involvement are being utilized. The bonds of love and self-giving, however, should be considered as stronger than the bonds of genetics, enabling a possible alternative to the acts of unloved creation.

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Book Reviews

Death without Dignity: Euthanasia in Perspective
Edited by Nigel M. de S. Cameron
Rutherford House Books, Edinburgh, 1990, ISBN 0 946068 47
xiv + 205, Paperback, £6.90

In a society that has largely rejected any absolute moral principles as guides to behaviour and decision-making there is a need for guidance when confronted by issues of life and death, whether acknowledged or not. This powerful book is a great help in enabling Christians to have well informed honest arguments for their position, thanks to both the individuals who contributed papers and the editorial expertise of Nigel de S. Cameron. Except for the contributions by Everett Koop and the late Leo Alexander the book is made up of papers given at a conference on Euthanasia in 1989 and an earlier conference at the Institute for Contemporary Christianity.

As forecast in the editor's introduction, euthanasia has become one of the major talking-points of the decade. One underlying implication of all the papers is the fundamental difference between a world view embracing ethical principles based on a moral code in the Hippocratic tradition and one that is based on expedient existential values. This means that there is a choice to be made by individuals and the whole of society. The book is a great help in defining and understanding the issues that underlie it. However, the majority of people are not being presented with the full facts or a clear presentation of the issues; and the prophetic message of these contributors should be heard in a wider, popular context.

There is a foreword by Bishop Maurice Wood that gives an overview of the book and sets out the Christian perspective of the whole question of euthanasia. This is followed by an account of the situation in Holland where doctors set an example by refusing to cooperate with the Nazi euthanasia programme during the war, but where now 5–15% of all deaths are caused deliberately by doctors. The essence of this paper is that deliberate killing is wrong and that it is better to deal with the pain, loneliness and fear of terminal or incurable illness. It seems that there are few hospices in Holland and that the techniques of pain control are being developed slowly. There followes a paper from the *New England Journal of Medicine* of July 1949 by Leo Alexander, who advised the Chief of the Counsel at the Nuremberg war crime trial. This paper ends with a challenge to develop centres for the treatment of chronic illness. The theological perspective by Nigel de S. Cameron that follows deals with the Christian view of life and death, using the book of Job as a guide and giving the Christian view of medicine. The contrast with a view that accepts euthanasia is clearly set out—the latter 'imparts no dignity in death since it imparts no final dignity in life'. Luke Gormally, in the next paper, deals with the philosophical issues with insight and erudition and gives much food for thought—the importance of the dignity of the individual and the denial of this by the acceptance of the killing of one individual by another is pressed very convincingly.

There are then two contributions addressing the practicalities of decisions in this area. As a result, the conclusions may be less

well defined, but the necessity of having clear principles in the midst of the confusion of values in today's world is very apparent. The paper by David Cook uses as a starting-point a recent BBC television programme on euthanasia in which there was a considerable bias towards the views of the Voluntary Euthanasia Society. He sets out the counter argument, based on the fact that true human worth is only found in relation to God's purpose. He shows the inadequacy of the arguments based on criteria deciding whether life is worth living.

Any doubts about the inter-relationship and continuity of human life are laid to rest by the paper by Everett Koop. He shows how abortion on demand became part of the law of the land in the USA and thus opened the way to infanticide of handicapped and, by an entirely logical extension, to legalized euthanasia.

Two different perspectives on the doctor's role follow and one on the nurse's position. Duncan Vere sets out the implications for legalized euthanasia for practising doctors—and the considerable problems that are involved. He shows that withdrawing treatment may, in fact, be the right treatment and the best for the patient—as opposed to euthanasia which harms the patient. The paper by Anthony Smith analyses the BMA report on euthanasia, published in 1988. On the positive side, the report concludes unequivocally that the deliberate killing of any patient should remain illegal. On the other hand, there is the disquieting recognition that the BMA is responding to *mores* of the age and is not setting a lead in terms of principles to be followed. Sarah Whitfield highlights the erosion of trust in medical staff that would follow the availability of euthanasia in hospitals. Finally, the contributions from Robert George and Dame Cicely Sunders compellingly make the case for adequate palliative care which removes the need for euthanasia.

This is a book to be used and it is highly recommended for reference, checking on the main arguments and for acquiring an overview of the whole subject of euthanasia.

Dunfermline PAUL BUXTON

Birth, Suffering and Death: Catholic Perspectives at the Edges of Life
Edited by Kevin Wm. Wildes, SJ, Francesc Abels, SJ and John C. Harvey
Kluwer Academic Publishers, 1992, ISBN 0 7923 2545 1, Paperback

This collection of works is the first in a subseries on Catholic bioethics, published by Kluwer Academic Publishers in their series *Philosophy and Medicine*.

We live in times of great confusion, so it is important to know the 'philosophical genealogy' as it were, of the work. In 1980 the Pope appealed to a group of Italian surgeons and physicians to help promote a science tailored to men's real need and not merely to pursuing technological progress and organisational efficiency for its own sake. As a result, the International Study Group on Bioethics was formed by representatives of some member universities of the International Federation of Catholic Universities, and other institutions. Kluwer Academic Publishers conceived the idea of publishing their deliberations.

The book is divided into three parts. The first, which is highly informative, well referenced and interesting, discusses various medical conditions which have posed moral dilemmas; severe congenital anomalities and prenatal diagnosis, the frail elderly and those suffering from dementia, and patients suffering with AIDS. The final chapter is on the practicalities of artificial feeding and hydration in advanced illness. Since our responses to these problems are shaped by our perspectives, the second part discusses Catholic theology. First is considered the confusion that exists in the modern mind over such phrases as dignity, solidarity and the sanctity of human life, which in a pluralist and non-believing society have become subject to individual interpretation and have lost their original meaning in the Christian concept of the *imago Dei*, man made in the image of God. This outlines the difficulties of dialogue with non-believers. Next is discussed an ethics of technology which can be drawn from biblical principles. God has given us a part as his stewards and co-workers. Christ, the New Adam, by his obedience regained for mankind Adam's original dominion over nature. All nature has an intrinsic purpose. Man's life on earth serves a purpose and the understanding of this purpose guides our ethical decisions. Other essays discuss human solidarity applied in the care of the dying and concepts of our life on earth as a basic good (because without it no other goods can be applied) and as an instrumental good (because it must serve its purpose).

Answers to ethical dilemmas are suggested in the second part but are covered more fully in the third part, in essays on pain relief, the concept of an inordinate burden and the Catholic tradition on nutrition and fluids, which makes plain that this problem has been discussed by moral theologians at least since the 16th century.

There is a lot of information on the court battles in the United States over the withdrawal of fluid and nutrition in competent and irreversibly comatose patients and the vacillation of the American bishops on the subject. This lack of resolution is found in the Catholic lay mind generally. There is no lack of resolution on the part of recent popes. At the end of the book there are two appendices. The first is the declaration by Pope Pius XII on the prolongation of life. The second is the declaration on euthanasia by the Sacred Congregation for the Doctrine of the Faith, signed by Pope John Paul II.

Solihull MARGARET M. SEALEY

Stainless Steal Hearts
Harry Lee Kraus, Jr.
Wheaton: Crossway Books, 1994, ISBN 0–89107–810–X, trade paperback, 412 pp. $12.99

Fated Genes
Harry Lee Kraus, Jr.
Wheaton: Crossway Books, 1996, ISBN 0–89107–877–0, trade paperback, 382 pp. $12.99

Two recent novels by Dr. Harry Kraus Jr. deal with current ethical and social issues—abortion and the use of fetal tissue in research (*Stainless Steal Hearts*), and human genetic engineering (*Fated Genes*).

In *Stainless Steal Hearts*, Christian surgical resident Matt Stone returns from a mission trip to Kenya into a milieu of residency, love, and unethical activity.

Pediatric cardiovascular surgeon Michael Simons, arrogant, domineering, and convinced of his call to solve life-threatening problems, searches for better and innovative surgical treatment of congenital heart disease. Dismayed by what he sees as the waste of viable organs in elective abortions, he enlists the help of abortionist Adam Richards in a plan to harvest and study the hearts of babies aborted in the late second trimester of pregnancy. Simons hopes to use the hearts as transplants for neonates with congenital heart abnormalities. Simons justifies his experiments with the thought that he can 'salvage a benefit from a situation that otherwise would benefit no one'.

Richards, firmly convinced of 'a woman's right to exert her own rights above that of the rights of the baby within her', agrees to Simons' request to perform live abortions—and delays the abortions until the fetuses are on the edge of viability.

To shield themselves from the nature of their activities, the two men trot out a litany of euphemisms—'conceptus', 'non-viable products of conception,' 'undifferentiated pregnancy tissue,' 'cardiac preparation,' 'abortion donor'.

As Simons and Richards search for appropriately-aged fetuses, a childless couple hopes for an adoption. Kraus contrasts those who want a child and are unable, and those who choose abortion as a convenient 'fix' for an undesired situation, or to avoid the consequences of their actions.

The situation is complicated when pro-abortion gubernatorial candidate Layton Redman's affair with a volunteer campaign worker culminates in her pregnancy. To avert a scandal he arranges for Richards to perform an abortion—and the baby is targeted to be one of Simons' experimental subjects.

When the volunteer is killed in a car accident, Matt Stone saves the baby's life, and in so doing reaps Simons' enmity. As Simons seeks to end Matt's career, the details of his and Richards' unauthorized research emerge.

Regrettably, *Stainless Steal Hearts* is weighed down by a slow-moving style in which the characters lack freedom to express their emotions and conflicts through action and dialogue. Kraus tells rather than shows, and the characters seem restrained by his urge to explain every nuance of behaviour. It becomes difficult to identify with them, and the feeling is that of reading a story instead of being involved in it. Intrusive narrative interpolation of 'what will happen', and extraneous names, background, and story threads abound. The net result is lack of drama.

Kraus' knowledge as a surgeon adds veracity to the details, but there is a tendency to use technical jargon where popular vernacular might be preferable. This results in the necessity to add explanation for non-medical readers.

Still, it is impossible to doubt Kraus' sincerity, or concern for the issues involved.

Stainless Steal Hearts presents an insight into the heart and mind of a brilliant but hardened man who regards the unborn as something less than human, and who considers nothing sacred and no action unethical in the pursuit of knowledge. Unanesthetized vivisection may be prohibited in animals, but Simons has no qualms about subjecting the 'products of conception' to such a fate.

Their nature concealed behind a screen of euphemism, the unwanted unborn become subjects for grotesque experimentation. They are defined as non-human—in the same way as the Jews and Gypsies were defined by the Nazis—in order that their elimination and/or utilization may proceed without damage to the experimenters' consciences.

But Kraus' Dr. Simons is not content to stop with hearts: 'I can see a day when we will have a whole new approach to all of medicine', Simons says (p. 323). 'Soon we will have fetal organ banks . . . hearts, livers, pancreas tissue for the diabetic, ovaries for the infertile, brain tissue for Parkinson's disease patients . . . I can see the day where we will prescribe a pregnancy for a woman with a failing kidney or liver or with diabetes, and then use her offspring's tissue to treat the mother's diseases.'

Such a passage contains unpleasant echoes of the writings of science fiction author Larry Niven. In Niven's nightmarish vision, criminals are used as organ donors - and the definition of what constitutes crime is reduced to the trivial in order to provide sufficient numbers of body parts. *Stainless Steal Hearts*, reminds contemporary society that the only crime the unborn have committed is to be undesired—and to lack the capacity to speak for themselves.

Lest we think that such a scenario of fetal organ donation is restricted to the confines of fiction, recall an American case where a woman conceived a child for the express purpose of providing a bone marrow donor for another child with leukemia.

If the unborn are regarded as nothing more than disposable tissue, then Simons' utilitarian actions make perfect sense. But if humans are created in the image of God as scripture affirms, and possess intrinsic worth, then those actions are cast in an entirely different, negative light.

The dichotomy is unavoidable. Either the unborn are non-viable tissue, or they are human—people in the making. Euphemisms should not be allowed to blur the distinction. Kraus' abortionist Richards puts the matter succinctly: 'The public shouldn't get focused on the details of the donor as a living, often kicking fetus with a beating heart.'

But it is precisely those 'details' that matter. 'Donor' or 'beating heart' is the thrust of Kraus' novel. And in the final analysis, every one of us is a 'product of conception'.

*

Fated Genes follows the struggles of Brad Forrest, a young, ambition-driven pediatric surgeon whose dedication to work has left no time for God, and has pushed his marriage to the brink of dissolution. In search of further career advancement, he accepts a position at a clinic directed by the equally ambitious Dr. Web Tyson.

When Tyson is nominated for the post of surgeon general, he sees a golden opportunity to advance his own brand of humanism—a humanism compounded of infanticide, euthanasia, and abortion, all designed to ease society's burden. The cost of an individual to society is the overwhelming consideration, because 'the almighty dollar seems to rule the world'. In a phrase replete with connotations of Nazi Germany, those whose 'lives aren't worth living' (in Tyson's estimation) are to be removed.

Not content to wait for societal approval, Tyson's wishes are carried out in secret. Babies with congenital defects are 'spared a life of suffering'. Tyson's seeming compassion does not extend to the individual, however; only societal cost matters.

Brad Forrest knows nothing of this.

Behind the scenes are the subterfuges of Satanist Lenore Kingsley, powerful president of United Biotechnical Industries. In need of a new product, U.B.I. turns to genetic engineering. A researcher develops a gene-splicing method to alter the human genetic code, and Kingsley envisions her future clearly - with a surgeon general (Tyson) sympathetic to her aims, she hopes the path will be cleared to produce genetically perfect babies, custom-made with specific characteristics, all flaws removed. 'In many ways, we will control the destiny of the world', brags Kingsley. Human embryos are used for testing, and Kingsley herself becomes the first surrogate mother for an altered embryo.

Unwittingly involved in this intrigue, Brad Forrest nearly loses career, wife, and life, until *Stainless Steal Hearts*' Matt Stone helps him find reconciliation with God. As the plans of Tyson and Kingsley slowly come to light, Forrest is placed in a situation where he has to put his newly-found faith to the test.

Tyson and Kingsley pursue their paths until an experiment goes wrong, and they reap both the rewards of their egotism and folly, and the recompense of violated human passions.

Intriguing in concept, *Fated Genes* suffers from the same faults as *Stainless Steal Hearts*—a slow, over-explanatory narrative style that lacks drama and makes the book feel too long. Spiritual warfare terminology pervades the novel and at times devolves into melodrama. Phrases such as 'the prayer circle . . . was launching a few missiles of its own', and similar expressions of a charismatic bent—some of which border on the glib or hyper-religious—are unlikely to resonate with readers from other traditions, or those who are not conversant with such terminology, and certainly not with non-Christians.

Suggestions of witchcraft and Satanism lie in uneasy—but worrying—juxtaposition with the technical/medical aspects. One is left wondering why and how the intellectual Kingsley became so involved. As in *Stainless Steal Hearts*, stray story threads are left undone.

The message of *Fated Genes* can best be expressed by the proverb, 'Fools rush in where angels fear to tread'. Kraus raises important questions, and wisely in a work of fiction, attempts no answers, preferring to let the story speak for itself.

When the Human Genome Project reaches completion in a few years, we will have the complete code of the human genome laid out. Should we tamper with it? If we develop techniques to alter genes - and the question is not *if*, but *when*—who will have the final say as to what is altered? In adding or deleting genes, or aborting fetuses whose characteristics are not all that is desired, who decides?—Parents? Individuals? The government? The courts? Medical professionals?

In the abortion-easy climate of the USA we would undoubtedly witness a rise in elective abortions, as parents seek for the perfect child.

Is there potential for discrimination based on genetic characteristics—sex, race, the presence or absence of other markers; a gay gene, perhaps?

Will gene therapy be restricted to correcting defects, or will we embark on a programme of 'improvement', to 'hasten the next phase of human evolution', as will surely be claimed? Would we see a new round of eugenics?

How far are we willing to play and capable of playing God?We need to know far more about the workings of the human genome, and have a well-established ethical underpinning before embarking on potentially hazardous courses of action. But will we have such underpinnings in time, or is the future nearly upon us? Will those—like Lenore Kingsley —whose ambition outstrips their morals force decisions on a society that isn't ready to handle their implications? We are created 'a little lower than the angels' (Psalm 8); let us pray that we aren't fools.

Billings Clinic, Billings MT ANDREW M. SEDDON M.D.

ETHICS & MEDICINE

paternoster periodicals

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