

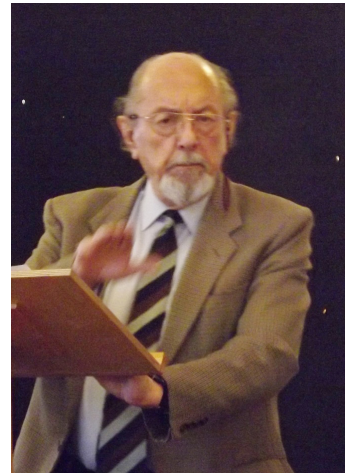
Evolution and Procreation

Quentin de la Bedoyere, July 2014

After the Association's AGM in Wimbledon on June 14th Quentin de la Bedoyere delivered a talk entitled The Natural Law and the Catholic Conscience. He has kindly contributed this further exploration of the subject.

The purpose of this paper is to explore the application of the Natural Law (NL) in the light of our changing understanding of God's intentions written in our nature. In particular, I wish to look at the effect of evolution on the issue of population reproduction.

My argument is summarised as follows. While NL in itself does not change, it has to be applied to human circumstances. This can lead to modifications as we better understand these. (I illustrate this with some examples below.)



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- I look at the nature of evolution as an important method in God's creative armoury. I argue that the NL, as understood in Catholic terms, has not yet considered seriously how this may change our understanding of some human characteristics, and so lead to reviewing its demands.ⁱ
- I examine the 'natural' Total Fertility Rate (TFR) of humans, and I compare this with current TFRs. (TFR is the number of live births per woman during her fertile years in any given population. Thus it includes unmarried and childless women.ⁱⁱ)
- I show how evolution establishes a TFR adequate to reproduce population in animal species, and how this must necessarily apply to humans.
- I compare current TFRs with "natural" TFRs and seek to show that, without any other intervention, there is a gross mismatch between "natural" TFRs and the rate required to reproduce the population.
- I argue that this mismatch amounts to a serious disorder which, without correction, would lead to very damaging circumstances.
- I argue that the Church cannot stand by when the demands of the natural law are being met only in the secular world.
- I suggest that methods which reduce fertility are the most fitting, and so hormonal means might be best suited. In my argument, the prime intention is to correct a natural disorder.

Developments in the application of the Natural Law

Natural Law, being based on Man's created nature, does not change. However, in our fallen state it needs to be applied to human circumstances as we recognise them. Consequently a development in our understanding leads to greater faithfulness to the true NL. I will briefly remind you of three examples,

Editor's note: The Catholic Church has long taught that the Natural Law follows from the constitution of the nature with which God has endowed us. According to St. Thomas Aquinas: "Natural Law is nothing else than the rational creature's participation in the eternal law".

with which most of us are familiar.

The condemnation of abortion has been maintained since the beginning, but the quality of the act and the penalties for its commission, have varied according to our understanding of the timing of ensoulment. For example the time of human ensoulment according to Aristotle (40 days after conception for a male; 90 days for a female) prevailed in the absence of other evidence. It was only in 1869 that Pius IX formally ruled that ensoulment occurred at conception. Even now, there are theologians in good standing who maintain that ensoulment does not take place during the first few days during which one embryo may clone into two.ⁱⁱⁱ

A second example is provided by Pius XI's encyclical *Casti Connubii* in 1930. He specifically permitted the use by married couples of the infertile period, for appropriate reasons. Today we regard the use of natural family planning not only as virtuous but as potentially contributing to the strength of the marriage bond.^{iv} But it caused a great fuss at the time because the Church's tradition had indicated that any attempt to separate marital intercourse from procreation was unworthy and potentially sinful. The 1917 Code of Canon Law described the secondary purpose of marriage to be the "allaying of concupiscence" – a grudging acceptance of our distasteful shortcomings. The circumstances which led up to this indulgence in 1930 were a better understanding of the nature of marriage and the recent development of the Ogino-Knaus calendar method of identifying fertile days. The Anglicans had approved artificial contraception shortly before.^v

The third example is mutilation – that is the removal of an organ or a function from the body for any purpose other than the good of that body. A common example is sterilisation, which may never be a direct intention, but may be an unwanted and proportionate side effect of treatment for some other purpose. The issue in contention was the donation of a kidney between two living people. Clearly this came under the terms of the prohibition. But the debate was effectively ended by Father Gerald Kelly, a leading authority in this field: "By a sort of instinctive judgment we consider that the giving of a part of one's body to help a sick man is not only morally justifiable but, in some instances, actually heroic."^{vi} His judgment has been subsequently confirmed at the highest level.

The issue of evolution

Given that new knowledge continues to play an important part in development of understanding, I now turn to evolution. This element of biological nature could not of course have been taken into account before it was formally proposed in the 19th century, and subsequently confirmed by a plethora of evidence.

Evolution is not a "theory" in the sense that it is a matter which remains in doubt. It is an observable fact. Indeed it is unavoidable. If a biological entity breeds young which receive variants in DNA (either by mixture of parental DNA, or by mutations) it follows that those which inherit characteristics favourable to survival have a higher probability of surviving to breed in turn. Thus "useful" characteristics tend to become established in a population.

We may find ourselves using phrases such as: "This is a methodology chosen by God as an aspect of creation", or speculating about whether God is aware of, or intends, every one of the myriads of changes in all the species. This is anthropomorphic musing of no useful significance. What we do know is that evolution has, in itself, no conscious purpose, but it has an essential function in the formation of species, including *homo sapiens*. It is part of the data which informs us about human nature and, potentially,

affects our understanding of our nature – and, consequently, its demands.

Its application to the procreative purpose is not obvious. We have no reason to suppose that this has changed in any way since the mating of the first fully human couple. And this is of course reinforced by the Scriptural description of marriage and the marital act from the very beginning. However there is an aspect of reproduction in which, I argue, evolution plays a key part.

The Total Fertility Rate

The TFR (see the earlier definition) is an evolutionary variable. If we examine different biological species we find an extraordinary range of methodologies. Nature has been profligate in her variety. However a fundamental pattern, in which the number of young originally born is dictated by the number which survive to breed, may be illustrated by contrasting examples. The common frog produces between 1,000 and 2,000 young. The reason for this is clear: the young provide food for a range of predators. Consequently, a large number of young are needed so that sufficient will survive to reproduce the population. Were the number of live young to decrease, or the predators to increase, the frog population would diminish or even disappear. By contrast, the female chimpanzee produces her young at intervals of 3 to 5 years. A mother chimpanzee has a large investment in her baby's early years, and her freedom to give care is key to her baby's survival to maturity. It follows that those species which have not developed the characteristics required for producing sufficient young to replace the population are extinct. What is the natural fertility rate of the human female? We cannot hope to find an exact figure because we would need to go back to a time when methods of artificial contraception were not available. Our nearest approximation is likely to be the modern TFR of the less developed populations – least touched by the influence of the developed world. Here the figure (established in 2005) is 6. The source of this figure is shown as an endnote.^{vii}

It is generally accepted that the TFR required to reproduce the population in a developed country is 2.1. The estimates for 2014 in the CIA Factbook show that, out of 224 countries listed, 108 exceed this figure.^{viii} A ranking of countries by infant mortality shows the strong correlation between this factor and the TFR: the higher the infant mortality, the higher the TFR needed to replace population.^{ix}

So we have a mismatch – or, in the term often used in Catholic moral description, a disorder. Evolution has ordered our natural rate of fertility to be sufficient to reproduce the population in the demanding circumstances which have prevailed over 200,000 years. But, over the last 100 years, we have increasingly developed societies within which the former level of fertility is three times too high. The resulting disorder results from our success in providing better standards of living as human beings, and we look forward to this success being enjoyed by all human populations.

Is this disorder a real threat?

The potential outcome calculated mathematically is frightening. Reproduction at the natural rate would result in a compounded tripling of the population continuously into the future. Try working it out and you will quickly find yourself in astronomical figures. At this point we might be tempted to cite Malthus and to point out that his pessimistic views on population increase (and later forecasts based on his principle) have never

applied in practice since in many countries (but, tragically, not in all) we have been able to increase our resources. But that is to confuse relatively low increases in population with our current situation – which is of an altogether different order.^x Nevertheless we are not facing disaster. This is because the growth of prosperity and the stability of economies are accompanied by a reduction in the TFR. As a population becomes less dependent on its children for security in old age and it begins to acquire enviable Western habits, so it turns to artificial contraception, backed up by abortion. In practice we are being saved by methods of which we disapprove. Aren't we lucky? They sin, we survive.

The Church's current contribution to the problem

In brief, the Church's position, as set out in *Humanae Vitae*, is that barrier contraceptives are forbidden since "it is required that any use whatever of marriage must retain its natural potential to procreate human life". (para 11, italics in text) Equally, sterilisation (permanent or temporary) is forbidden, unless it is necessary to cure disease, and has no contraceptive intention. All direct abortion is forbidden. (paras 14,15) However abstinence, whether permanent, or used to avoid the marital act at time of potential conception, is permitted (providing that there are reasonable grounds). (para 16)

Thus this last method of controlling population is the only means sanctioned by the Church which is available for addressing the disorder I have outlined. One may imagine a halcyon time when the women of the world, fully instructed and committed, all practise natural family planning, eschewing other methods – or one may not.

Correcting a disorder

While I have said that evolution is a necessary phenomenon, it has of itself no purpose. It is a dynamic process relating potentially changing characteristics to a potentially changing environment. It serves a purpose within God's creative plan: in this case providing for sufficient births for the population to continue. Unfortunately this process does not go into reverse; that is, it has no mechanism for decreasing fertility when the existing level is too high in the existing circumstances. Only mankind's actions can do this. But is this legitimate?

I argue that it is mankind's vocation, inherited from Adam, to correct natural disorders. If the function of evolution is to ensure the reproduction of the species, it is mankind's function, even obligation, to respect that function by controlling it in the way that serves mankind as God intended it to do. It is a proper application of NL to ensure that those facilities which have come about to enable mankind to flourish are able to do so.

A proposed solution

Nature controls the level of human fertility in a combination of ways – the age range from menarche to menopause, for instance, or the contraceptive effect of lactation, or the neural and hormonal factors which influence sexual congress. But the most obvious factor is that a woman's regular ovulation takes place once in a monthly cycle and allows her to be open to conception for a handful of days. It would seem that the only practical method of correcting the mismatch between the natural TFR and the reproductive need is to check this rate of ovulation through chemical means. I am proposing that we should cure excess fertility most appropriately by reducing fertility. There does not appear to be any other way. This immediately brings us up against the teaching of *Humanae Vitae*. The use of the

contraceptive pill – while not evil in itself since it can be properly used for personal therapeutic purposes – is declared to be wrong when the intention is contraceptive. And in suggesting that it may be used to control societal fertility, it cannot be claimed that contraception at the personal level is not instrumental in the process.

In reviewing this, we should first remember that the issues of evolution which lead to the mismatch which I have described, were not addressed in the encyclical. While theologians such as de Chardin and Mahoney have suggested that evolution is fundamental to our faith understanding, and there is general acceptance that evolution is compatible with God's creative activity, a comprehensive review of deducing moral imperatives from human structure in the light of evolution has not (to my knowledge) taken place.^{xi}

Contraceptive in intent? I argue that it is primarily therapeutic in intent. That is, the primary intention is to correct a disorder which has arisen through mankind's success in providing conditions in which most babies are able to survive to breed in turn. The action suggested is to correct an organic factor which, in its current form, is damaging the need to keep the growth of the human population at a level at which it can reasonably be expected to flourish.

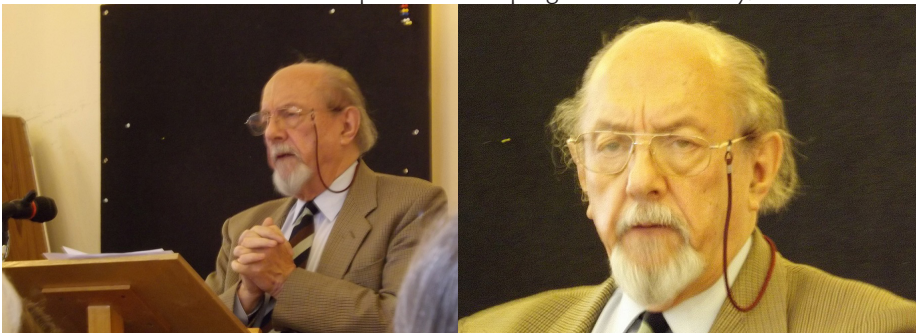
It certainly involves a development in moral doctrine based on a deeper understanding of our created nature.^{xii} But, as I showed at the beginning of this paper, such developments have happened before, and will continue to happen as the Holy Spirit leads us ever more closely towards the truth.

There does not appear to be any other way

Yes, we should certainly consider other ways in which this therapeutic correction can be achieved – and those who hold that my argument, in terms of the analysis of the problem or its possible solution, fails, should suggest an alternative solution. Such a solution must of course be practicable -- not just in aspiration but in potential execution.^{xiii} And it must not rely on the secular world controlling the mismatch through methods of which we disapprove. Washing one's hands is rarely edifying.

Ancillary issues

It would seem likely that acceptance of this conclusion would greatly assist Catholic efforts in less developed countries. By being engaged in a practical way in the work of controlling population Catholic organisations would have high relevance. This would enable them to counter pressures used on women who choose to avoid family planning programmes. I understand that pressures inconsistent with the human rights of women are sometimes used to promote such programmes. Secondly, the Church



would have strong influence in curbing abortion (including abortifacient methods) as a means of family planning or gender selection.

I have written elsewhere of the great damage caused by the disconnection between the lay Catholic population and the teaching of the Church on contraceptive matters.

^{xiv} While an amendment to existing teaching would cause considerable problems, this would at least be alleviated by the understanding that it had come about through taking into account a factor (evolution) which had not hitherto been formally considered. As I have shown, there is good precedent for this.

Please regard this paper as a work in progress. I am offering it to members of the Newman Association for review. Since its matter is of most immediate concern to the laity, I have thought it right to present it first to a lay organisation. Thus I look forward to your comments. In particular, I will value critical comments or any suggestions for improvement. Please write to me at quentin@blueyonder.co.uk and note if you do not want me to mention your name in any subsequent reference.

The application of NL to man in a fallen state is discussed at length in *Natural Law*, a theological approach, Josef Fuchs SJ, Gill & Son, 1965, *passim*

i http://www.naphsis.org/about/Documents/TOTAL_FERTILITY_RATE_Mark_Final.pdf

ii Several accounts are available; this one is representative: http://www.religioustolerance.org/abo_hist_c.htm

iv *Humanae Vitae*, para 16

v Lambeth Conference, 1930. Resolution 15

vi *Theological Studies* 17 (1956)

vii There is a whole range of ways in which human TFR can be moderated; the natural rate, covering the history of mankind across the world, will always be guesswork. But a recent UN study has arrived at a modern TFR measured against the prosperity of the sample. As you would expect, the lower the prosperity the higher the TFR. For the least prosperous (and therefore, it is assumed, the closest to natural conditions) the TFR is just over 6. A good chart, plus the necessary academic reference, is to be found at http://en.wikipedia.org/wiki/Fertility-development_controversy and see http://etheses.lse.ac.uk/39/1/Cummins_Why_did_fertility_decline.pdf p.14, Table 1.2

viii An investigation of black women in the US conducted by the United States Bureau of the Census estimates their TFR in 1850 at 7.9, and notes this is a decline from previous rates. The TFR for white women was 5.3. (<http://books.google.co.uk/books?id=b8hAAAAIAAJ&pg=PA118&lpg=PA118&dq=total+fertility+rate+in+1850&source=bl&ots=QrGuiV5Xua&sig=pAu1sVvyeUN8f5L3UQVCqGHdCs&hl=en&sa=X&ei=83yyU9Xvj4OAPdHGgJgH&ved=0CfcQ6AEwCA#v=onepage&q=total%20fertility%20rate%20in%201850&f=false>)

For the purpose of this paper I have conservatively assumed a TFR of 6 as being the natural rate of fertility.

ix <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2127rank.html>

<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html>

Taking every 10th entry in order, using 2014 estimated rates, the correlation between high TFR and high infant mortality is $R = 0.8599$. This is described as a strong positive correlation. 1.0 is exact correlation. The p value is < 0.00001 ; < 0.05 is commonly taken as significant; this is highly significant.

x Thomas Malthus (1766-1834) argued that since resources increase arithmetically and population increases geometrically, population will eventually outstrip resources,

xi But see my *Autonomy and Obedience in the Catholic Church*, T & T Clark, 2002, pp 150-155, where I briefly describe the proposals in this paper.

xii That is, while the primary intention is the correction of disorder, the means are contraceptive in intent – and so contrary to *Humanae Vitae*.

xiii In an idle moment I speculated that it might be possible to put some contraceptive chemical into the public water supply – much as we might use fluoride for dental health. This would of course obviate any specific contraceptive intention of individuals (albeit at the expense of their choice). However I do not think this remedy has a future.

xiv <http://secondsigthblog.net/2014/03/13/beware-of-the-elephant/>