

# Tipping the Church into Growth

Explaining Church Growth using Tipping Points

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## Introduction

A church with a hundred people has a guest service where everybody is asked to bring one new person. If all those people come and stay then clearly the church doubles! Such is the success of the guest service that the church decides to have another one the following year with similar results.

Simple arithmetic can be used to calculate the growth of the church. At the end of the first year the 100 people has become 200. After the second year that becomes 400, if all of the new converts recruit in the same way. In subsequent years it becomes 800, 1600, 3200 etc. This could be the revival that everyone is hoping for!

However, with a bit more thought, it is soon realised that there are other processes that might stop this situation happening. What if people stop recruiting this way? They might run out of friends to ask! What if some people never bring anyone? What about those who leave the church, and those who die? Both of these will reduce the numbers in the church. On the positive side the church will also grow if it can keep its members' children as they grow up. However even this depends on how many stay.

It is no longer a straightforward calculation to work out how fast the church grows. There are too many competing factors for arithmetic to help. Maybe the church is losing so many people it declines. Will the church become extinct? How many more people need to be converted to see long-term growth? Although arithmetic cannot answer these questions, more sophisticated mathematics can. Together with the help of computer simulation it is possible to work out principles that not only explain the growth and decline of the church, but suggest strategies that could help the church grow.

The use of mathematics and computer simulation to investigate the growth and decline of the church is the aim of the project called "Church Growth Modelling". It has been pursued through adapting mathematical models originally

**A tipping point is where the growth pattern of the church changes**

used to describe the spread of disease, but with the Christian faith, rather than illness, being spread from person to person. Although the maths is hard for most people to follow, it is possible to reduce the results to a set of principles that hinge around the concept of a "tipping point".

A tipping point is a situation where the growth pattern of a population or phenomena changes<sup>1</sup>. In the case of a church there will be two: between survival and revival, and between survival and extinction. The church growth model gives guidelines that can help a church be on the right side of these tipping points.

## Conversion and Enthusiasts

The main assumption in the church growth model is that only a small number of people in the church are responsible for its recruitment, whether that is the conversion of an unbeliever, or bringing them to church where they are converted through the preaching, or witness, of someone else. Such people are called "enthusiasts" after the nickname given to the early Methodists whose enthusiasm to tell others of what the Lord had done for them led to many conversions.

It is also assumed that such enthusiasts don't retain their ability to bring others to conversion indefinitely. Although a few may do this, on average there is only a limited period of time that a Christian is an enthusiast, after which they become an inactive believer. They may still have much enthusiasm for the Christian faith, and for the Lord himself, but it does not translate into an enthusiasm that brings others to faith. It is for this reason the church growth model is called the "Limited Enthusiasm Model".

The primary candidates for such enthusiasts are new converts. This is partly because of the newness of their faith with exciting changes in their lives, but also because they often have many contacts with unbelievers. These contacts will decline over time as the convert becomes more integrated into church life, thus giving a limited period to their recruitment "enthusiasm".

Of course inactive believers can become enthusiasts again. Life can be renewed by a work of the Holy Spirit. However it is not so easy for them to restore a network of contacts with unbelievers. Thus existing believers are assumed to be only a secondary source of enthusiasts, although, as will be explained later, their role may well be crucial.

A critical parameter in the model is the potential that enthusiasts have to reproduce themselves, that is make new enthusiasts, not just converts. Clearly this *reproduction potential* needs to be at least

**Reproduction Potential:  
how many new  
enthusiasts one  
enthusiast makes**

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<sup>1</sup> See "The Tipping Point" by Malcolm Gladwell, Little Brown and Company, 2000.

one, on average, or the enthusiasts will die out, having failed to replace themselves. If it is more than one then the number of enthusiasts will increase, as will the church, if there are no losses. It is this reproduction potential, averaged over all enthusiasts, that will determine whether the growth of the church tips between extinction and survival, or between survival and revival-growth.

## Revival-Growth Tipping Point

The key to explosive growth in the church is for enthusiasts to reproduce more enthusiasts than are lost. If this happens church growth resembles the epidemic phase of the spread of a disease. The number of enthusiasts increases, and thus the number of converts rises dramatically. The point at which this happens is called a threshold in epidemiology, but in popular language it is referred to as a tipping point. As the church growth in this case is similar to that seen in times of revival, it is called the "revival-growth tipping point".

The conditions under which this revival-growth tipping point is achieved need careful examination. It is popularly assumed that if there are enough people of the right sort - a critical mass - then growth will result. However, just as one person with a virulent enough disease can start an epidemic, then one enthusiast

**It is the quality of the enthusiasts, not their quantity, that matters**

with a sufficiently high reproduction potential can put the church over the revival-growth tipping point, giving rapid growth. It is the quality of the enthusiasts, not their quantity, that matters.

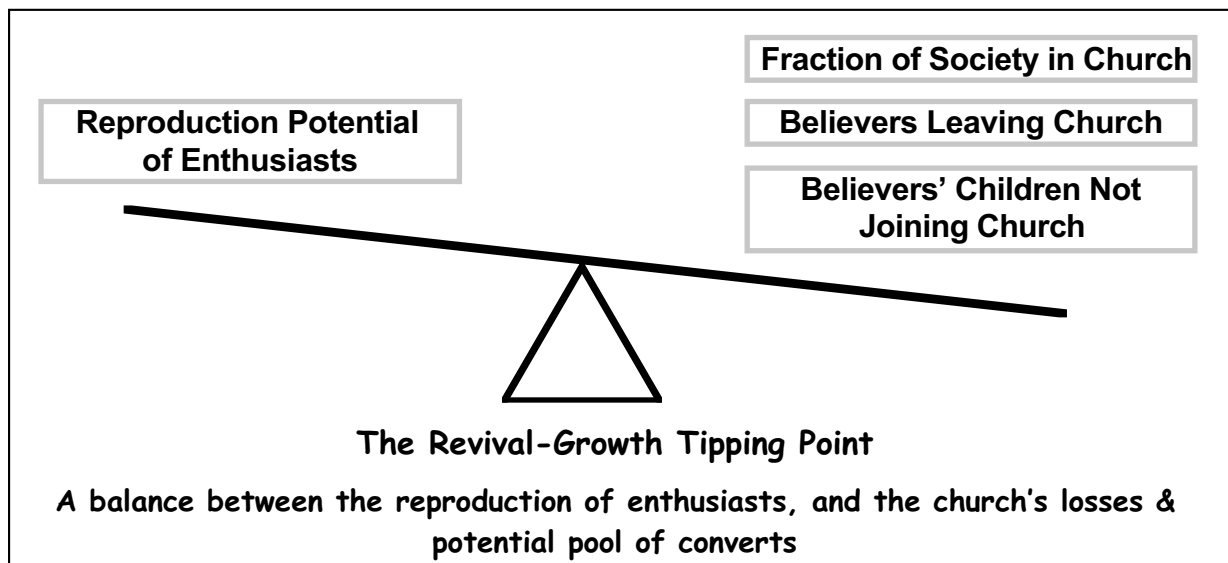
The precise level of the revival-growth tipping point depends on a number of factors, the most important of which is the fraction of society who are not believers. The larger the proportion of the population in church, the smaller the pool of potential converts. Thus the tipping point is higher and it is harder to see revival-growth. For example, if nearly all of society were unbelievers then the tipping point is when the reproduction potential is one. However if the church is half of society, that tipping point is two. This was the case during the Welsh revival of 1904, when a reproduction potential just over the tipping point, was enough to see an annual increase in church membership ten times the normal figure.

Losses from the church can also push the tipping point up. For example, take the UK church, occupying 8% of society. It is estimated that the church loses around 6% of its adults each year, and over half of the children of believers drop out before adulthood. If these losses were removed, the revival-growth

tipping point would drop by 15%, making such growth easier to achieve. Revival-growth can be missed if losses persist.

If the birth rate is much higher than the death rate in society then the tipping point is lowered and revival-growth is easier. Of course this is not something the church has much control over!

Exceeding the tipping point is a balance between the reproduction potential of the enthusiasts on one side, and the losses and fraction of the population in church on the other.



## Tippling the Church Towards Revival-Growth

Changing the balance in favour of revival-growth can be achieved either by increasing the reproduction potential or, depending on circumstances, reducing the tipping point itself. The latter effect can be accomplished by reducing losses or by widening the pool of potential converts. However no reduction in tipping point can make up for a reproduction potential of less than one. Increasing that potential should always be the first strategy.

### Increase Reproduction of Enthusiasts

The higher the reproduction potential of the enthusiasts the more the balance tips towards revival-growth. How this is achieved is another matter.

Traditionally the church has tried this through personal evangelism courses, or holding big crusades, or seeker services that may help enthuse believers to bring their unbelieving friends along. However, although this may make evangelists, unless their new converts also evangelise there has been no

reproduction of enthusiasts. Short-term growth has resulted, but the balance hasn't changed.

Ultimately, effective enthusiasts are only made by Jesus Christ himself pouring in his new life - a quality of life that is so infectious others want to catch it.

**Enthusiasts have a quality of life that is so infectious others want to catch it**

Such is the teaching of the Acts of the Apostles where it is the quality of the lives of the believers that acts as the "advert" for the Christian life: *No-one else dared join them, even though they were highly regarded by the people. Nevertheless more and more men and women believed in the Lord and were added to their number<sup>2</sup>.* When the church aims to deepen the life of its believers, and teaches new converts the same way, the reproduction potential increases.

The best contemporary application of this principle is the Alpha Course originating in Holy Trinity Brompton London. A course starts with a small number of believers - the enthusiasts - who invite their friends to participate. Participants who are converted often become helpers on subsequent courses, bringing in friends from their still expansive unbelieving network. Thus more enthusiasts are reproduced by the course which, if high enough, may take the church over the revival-growth tipping point.

### Increase Pool of Potential Converts

If the pool of potential converts is increased then the church occupies a smaller fraction of its community and the tipping point is lowered. Of course it is not possible for a church to increase the size of its community. However many churches are only in effective contact with a fraction of that community often for social and geographical reasons, thus tipping the balance away from revival-growth. Taking measures to tap the unreached part of communities can substantially swing the growth towards the tipping point. Traditionally this has been done through family services, mother and toddler groups, mid-week activities and the like. However for this strategy to be effective unbelievers from these communities must not only be converted, but also become enthusiasts involved in the conversion of others.

Church planting is perhaps the most effective strategy for widening the potential convert pool and reducing the revival-growth tipping point, particularly if the new churches are an integral part of some unreached group. A good

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<sup>2</sup> Acts 5:13-14.

example of this strategy is employed by St. Thomas' church in Sheffield, whose congregations, called mission clusters, are based around a target group of people. Different congregations target different people, such as: young adults interested in arts and music; families; inner city urban; foreign students; those who have to work on Sundays.

A similar effect is being seen at present with Church Planting Movements in Asia, Africa and South America. A single church is started in a people group with very few other believers. Once it grows to a particular size it plants new churches in other locations, effectively increasing the reachable unbelieving pool. Thus the revival-growth tipping point drops and growth increases dramatically. With each church plant there is a further drop in the tipping point and growth becomes massive.

If the increase in the potential pool of converts is dramatic, then the growth can become explosive. This may well have been one of the mechanisms behind the spread of the "Toronto Blessing" in 1994, whose growth ran parallel with the growth of the internet and email usage. The new technology enabled personal contacts far in excess of normal social networks, thus what was a local phenomena in one church rapidly became a world-wide movement.

A similar use of the media helped turn a local revival in Cardiganshire Wales 1904 into the well-known national Welsh revival where 100,000 were converted in twelve months. One man influenced by the Cardiganshire revival, Evan Roberts, took the revival back to his home town of Loughor. Such was the impact that during the second week of his mission the local revival was covered in the national newspaper, creating a much larger pool of people crying out for the revival blessing. Thus converts from the revival were able to make new converts, and enthusiasts, much faster as they sought to meet the demand created by the media exposure.

### Reduce Losses

Although increasing the reproduction of enthusiasts has a greater impact than reducing the losses, nevertheless if the church is near the revival-growth tipping point a small reduction will make a large change in its growth. In the words of Malcolm Gladwell, author of *The Tipping Point*, "Small things can make a big difference".

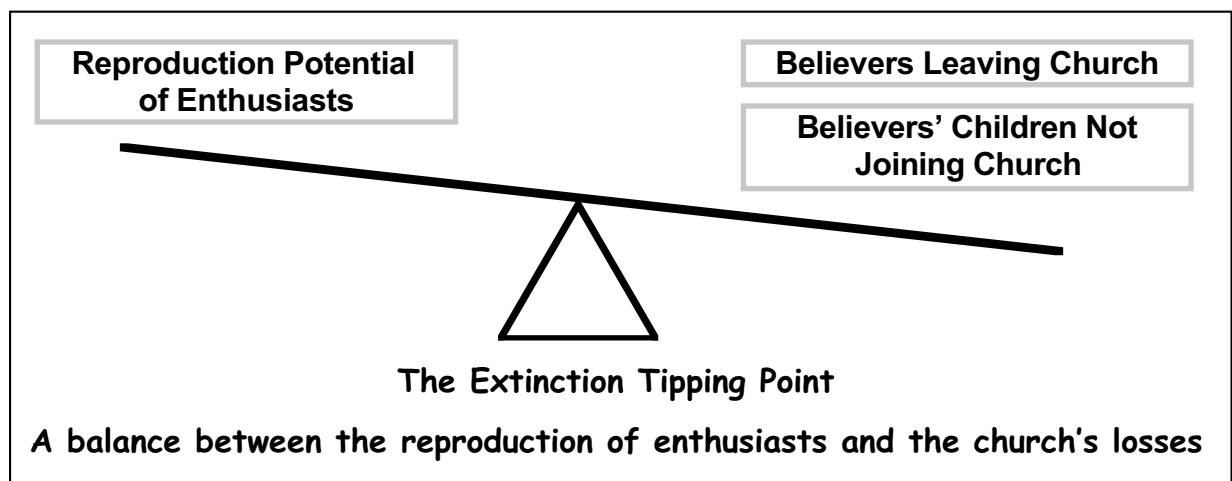
**Small things can make  
a big difference**

The advantage of a strategy of reducing losses is that it is often one a church can implement relatively easily. Many churches lose people and children through the absence of pastoral care networks. The implementation of such networks, perhaps housegroups, special interest groups, lay pastors and visitors, can help retain people otherwise lost.

One church, known to the author, has a policy of assigning a mentor to new people for their first six months in the church to help them find the groups and ministries they fit into. The mentor pulls out when the person is integrated into church life. The policy has dramatically shut the "back door" of the church, allowing its existing growth to have more impact, and taking it over the revival-growth threshold.

## Extinction Tipping Point

A church with a moderate reproduction of enthusiasts can survive even if it is not strong enough for revival-growth. However it is possible that enthusiasts reproduce so poorly that they eventually disappear, leading to the extinction of the church through its losses. Again there is a threshold - the extinction tipping point - which the reproduction potential must exceed if the church is to avoid that extinction. If the reproduction of enthusiasts is above that tipping point the church will survive and eventually stabilise out to some fixed proportion of society - a value that depends on the losses and its ability to reproduce enthusiasts.



Like the revival-growth tipping point the extinction point also depends on the losses from the church. The higher the losses the higher the tipping point and the higher the reproduction potential needs to be to avoid extinction. Unlike the

revival case the extinction point does not depend on the number of unconverted people, thus a church heading for extinction will continue in that direction however small it gets. It has declined because its reproduction of enthusiasts has not made up for its losses.

Even without losses the reproduction potential needs to be one for enthusiasts to persist in the church. With losses it would need to be higher. Of course if there are no losses from the church, and the church keeps all the children of its members, then it will not decline even though all the enthusiasts die out. Nevertheless such a church is not robust against any future losses. This is often the end of a church that has become so institutionalised that all it does is keep its own people and convert no-one. Eventually some losses cause its decline and extinction.

The rapid decline of denominational churches from the 1960's onwards is often blamed on the factors in society that caused so many to leave during that period. However the evidence is that such churches had an inadequate reproduction potential from the late 19<sup>th</sup> century, but had survived mainly on keeping their own children, with few conversions from outside. To understand the decline of such churches the reasons for the earlier drop in reproduction potential would need to be investigated.

## Tipping the Church from Extinction to Survival

### Increase Reproduction of Enthusiasts

As with revival-growth the most obvious way for a church to avoid extinction is to see its reproduction potential increased. For some churches, such as the UK Methodists, an increase in reproduction will be the only way to avoid extinction as their reproduction potential is well below one. Once a church has few enthusiasts such a strategy, although it leads to survival, will take time to turn decline into growth. The lack of growth does not mean an unhealthy church. Church health is better measured by the growth in the number of enthusiasts, whose presence will guarantee its survival.

### Reduce Losses

The alternative way to avoid extinction is to reduce the losses, perhaps by retaining church children into adulthood, and thus lower the extinction tipping point. Although this strategy alone would not work for the UK Methodists, the Church of England, with a higher reproduction potential, could avoid its

expected extinction with a substantial reduction in losses. It would then survive, but at a lower level of membership than at present.

Interestingly a more effective approach is to combine the two strategies together. On their own a moderate increase in reproduction potential, or halving the losses, would be enough for the Church of England to survive. Combined

**The whole is  
more than the  
sum of the parts**

together the church would see revival-growth, though delayed by many years, and would more than double its current numbers. As in many areas of life "the whole is greater than the sum of the parts", showing that complex situations require more than one solution.

## Renewal and Church Growth

If the potential of enthusiasts to reproduce more enthusiasts fades, so often does their spiritual fervency. Renewal is that process where existing believers, whose spiritual life has ebbed, are brought back to vitality. For some it may be the first time they have ever lived such a deep spiritual life.

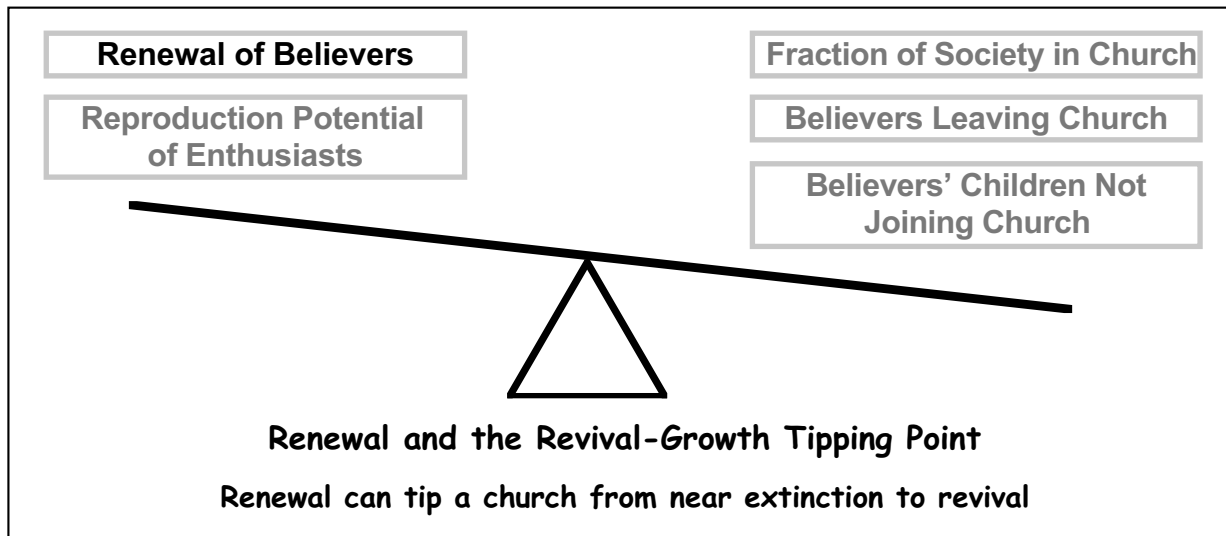
One likely result of renewal is that a believer, not just a new convert, can become an enthusiast, either again, or perhaps for the first time. Though not all believers have the same extensive network of unbelieving friends as new converts, nevertheless many do have such contacts, people who are used to the "religious ways" of the believer. If that believer has a new injection of spiritual life then their friends will notice the difference and perhaps become open to receive the faith afresh.

Revivals often start as renewal movements within the church. Both the Welsh revival of 1904, and the Hebridean revival of 1949, started from holiness movements for believers seeking a deeper spiritual life. Even the Methodist revival of the 18<sup>th</sup> century began with the conversion of existing nominal church members. The mass of conversions from outside the church came later.

## Revival-Growth by Renewing Existing Believers

This extra source of enthusiasts has a dramatic effect by reducing the revival-growth threshold. Thus a church, with an inadequate reproduction potential, can avoid extinction, and even see revival-growth, just from the renewing of existing believers. Even though the reproduction potential remains small, the renewal process can cause the number of enthusiasts to increase, thus seeing increased conversion and thus church growth. Remarkably a small increase in

renewal can cause a church to tip from one heading for extinction straight to revival, bypassing the survival situation.



Again the Alpha course is a good example of the renewing effect on church growth as it is not only an evangelistic tool but also a renewal course. Often Alpha courses start with only church members - infecting them with enthusiasm for the faith as they are exposed to its basic teaching, and the work of the Holy Spirit. The changes in them have an impact on their unbelieving family and friends who may well come on the next or subsequent courses. An Alpha course may run with church members three or more times before its balance of participants switches from believers to unbelievers.

### Renewal and Critical Mass

This renewing of believers effectively lowers the revival-growth tipping point, making revival-growth more likely. The extent to which it lowers the tipping point depends on the size of the church, and the number of believers open to renewal. A larger church will see a larger reduction in the tipping point, as will a church with many enthusiasts. This is the church's "critical mass": sufficient enthusiasts and believers for renewal to flourish. Thus renewal can effectively make up for an inadequate reproduction potential provided the church is of a sufficient size.

This critical mass of renewed believers is not easy to determine as it depends on all the loss factors. However, once the church acquires that critical mass, the impact of the enthusiasts eventually exceeds the revival-growth tipping point and the church grows rapidly. For the strategy to work it is obviously helpful to concentrate enthusiasts in one congregation, initially.

A by-product of renewal is that there is often a substantial delay before church growth takes off. Such a delay has been the common experience of many churches that have seen charismatic and biblical renewal in their midst. Those involved see more life come into their church initially, but experience little growth from outside. However, there comes a point where growth starts, often in a very short space of time. Then evangelism, and the reproduction of enthusiasts among new converts, occurs naturally as an outworking of the internal renewal.

**Renewal, rather than evangelism, is the key to church growth**

Of course if the reproduction potential is high enough no critical mass will be required for revival-growth. However a church may well find a concentration on renewal, rather than an improvement in reproduction potential, a more effective strategy. Improving reproduction potential is not just about more spiritual life from God, but also about effective contacts with unbelievers, not that easy to change.

The renewal strategy may sound inward looking - a concentration on the life of the church rather than reaching out. However this is just the dynamics of the principle expounded in the Acts of the Apostles: *They devoted themselves to the apostles' teaching, to the fellowship, to the breaking of bread and to prayer ..... and the Lord added to their number daily those who were being saved*<sup>3</sup>. In many ways it is renewal rather than evangelism that is the key to church growth.

### Renewal and Accelerated Revival-Growth

Another side effect of renewal is that it not only tips a church into revival-growth, but that the growth accelerates much faster than it would have done without the renewal. Again this is an example of small things making a big difference. A small change in the amount of renewal can tip a church heading for extinction into very rapid growth.

Although such accelerated social diffusion is often seen amongst fads and fashions, nevertheless it is also seen in some revivals. Once the Welsh revival of 1904 had started in Loughor the growth was dramatic. Evan Roberts only attracted 16 people to his first meeting, mainly believers lacking assurance. By the end of the week this was well over a hundred, but still mainly believers as

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<sup>3</sup> Acts 2:42,47

Roberts' primary message was the renewal of Christians: the baptism with the Spirit. By the end of the second week the numbers had exploded with both Moriah chapels being filled, something in excess of 800 people, now including many unbelievers. From then on it is conversion, rather than assurance and the "baptism", that becomes the key feature of the revival. However that rapid growth was only possible because the initial enthusiasts were drawn from believers until a critical mass was reached.

## Increasing the Reproduction Potential

Church growth depends heavily on the ability of enthusiasts to reproduce themselves, whether from unbelievers or existing believers. This leaves the question "how can the reproduction potential be increased?"

This is best answered by looking again at the beginning of the Welsh Revival of 1904. When Evan Roberts arrived in his home town of Loughor he was on fire from God from his experiences in the Cardiganshire revival which had been underway for six months. He had received this from people who were already on fire themselves. In his first meeting he started with 16 people. By the end of the week there were over 100 and Roberts, "the insane fellow"<sup>4</sup>, and his meetings were the talk of the community.

As people listened to what Roberts said and responded to the Lord in prayer, more and more received that fire for themselves. By the end of the second week the numbers exceeded 800, but now the talk of the community was the Lord and what He was doing in their lives. A social contagion had become a spiritual epidemic because they were now passing on the life of God through their witness.

Duncan Campbell, of the Hebridean revival, described revival as "a community saturated with God". The only effective way to increase the reproduction potential is to be so "saturated with God" that His life and power flow out to all that such an "enthusiast" has contact with - believer and unbeliever. When believers seek that God-given life their "reproduction potential" increases.

**Revival: a community saturated with God**

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<sup>4</sup> "The insane fellow" was how Evan Roberts felt he was labelled during the first week of his mission, according to a letter he wrote at the time.

It is the hope and prayer of the author that the reader of this document will not just seek to understand church growth but wish to become an "enthusiast". That they will seek a greater passion and desire for Jesus Christ Himself, for a holy and obedient life like His, and for more and more of His power. So much that they can no longer keep it to themselves but must give it away to others.

*I pray that out of His glorious riches He may strengthen you with power through His Spirit in your inner being, so that Christ may dwell in your hearts through faith. And I pray that you, being rooted and established in love, may have power, together with all the saints, to grasp how wide and long and high and deep is the love of Christ, and to know this love that surpasses knowledge that you may be filled to the measure of all the fullness of God.<sup>5</sup>*

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<sup>5</sup> Ephesians 3:16-19

## General Articles

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- *Modelling Church Growth - Mathematically*, Church Growth Digest, 23(1) pp.3-5, 2001. British Church Growth Association.
- *Passing on the Faith*. Quadrant March 2002, published by Christian Research.

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- *Mathematical Modeling of Church Growth*, Journal of Mathematical Sociology 1999. Vol. 23(4), pp.255-292.
- *A Dynamical Model of Church Growth and its Application to Contemporary Revivals*, Review of Religious Research, March 2002
- *A General Model of Church Growth and Decline*, Journal of Mathematical Sociology, to be published.

## Conference Presentations

- *Growth and Decline of Religious and Sub-cultural Groups*, Appears in "Sustainability in the Third Millennium - Proc. International System Dynamics Soc. 2000.
- *A Dynamical Model of Church Growth and Global Revival*, Technical Report UG-M-00-4, presented at "The Annual Meeting for the Scientific Study of Religion", Houston, Texas, 18-21 October 2000.
- *A Dynamical Model of Strictness and its Effect on Church Growth*, presented at "The Annual Meeting of the Religious Research Association / Scientific Study of Religion", Salt Lake City, Utah 1-3 Nov 2002.
- *Revival or Extinction - An Application of Systems Dynamics to Church Attendance and Membership Data*, presented at "The Annual Meeting of the Religious Research Association / Scientific Study of Religion", Salt Lake City, Utah 1-3 Nov 2002.
- *System Dynamics and Church Growth via Enthusiasts*, presented at OR46: The Annual Meeting of the Operational Research Society, York, 7-9<sup>th</sup> Sept, 2004.

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