14. *The Australian Encyclopædia*, 5th Edition, 1988, The Australian Geographic Society, Sydney, **1**:230, 1988. There has been a tendency to revise this estimate upwards, possibly driven by the obvious inconsistency of the 300,000 figure with the belief in the antiquity of the Aboriginal population.

15. How long have Aborigines been in Australia? *Creation* **15**(3):48–50, 1993.

Where are all the people?
by Don Batten

Six billion people live on planet Earth. That sounds like a lot of people. Well, I would not want to invite them all to a barbecue at my house! However, they could all fit into an area the size of England, with more than 20 square metres each. Many of us live in cities, so we have the impression that the world is bursting with people. However, much of the world is sparsely populated.

Nevertheless, many wonder at how the population could have grown to six billion from Noah's family who survived the Flood that wiped out everyone else about 4,500 years ago. When you do the figures, it confirms the Biblical truth that everyone on Earth today is a descendant of Noah's sons and daughters-in-law. Not only that, but if people have been here for much longer, and there was no global Flood of Noah's day, there should be a lot more people than there are—or there should be a lot more human remains!

Many people have problems understanding growth rates of things. When the population doubles from 16 to 32, it does not seem like much, but when it doubles from three billion to six billion it seems like a lot more. But, it is exactly the same rate of growth. Given enough generations, the number of people being added with each generation becomes astronomical. It's like compound interest on an investment—eventually the amount being added each year becomes very great.

To illustrate this, think of the story of the inventor of chess. His king offered him a reward, but instead of gold he asked for one grain of rice doubled for each successive square on a chessboard. The number of grains would have been 1, 2, 4, 8, 16, 32 etc. The 10th square would have 512; the 20th, 524 thousand; the 30th, 537 million. The amount of rice on the last square[1] would have been a number so great—vastly in excess of the total world rice harvest at present—that it would have represented wealth far exceeding that of the king. Such is the power of compounding. And population growth is compound growth—that's why so many people are now being added each year. It's not necessarily that people are having more children than they once did, or that fewer people are dying.

What causes population growth?
The population grows when more people are born than die. The current growth

rate of the world population is about 1.7% per year.[2] In other words, for every 100 million people, 1.7 million are added every year; i.e. births net of deaths.

Many assume that modern medicine accounts for the world's population growth. However, 'third world' countries contribute most of the population growth, suggesting that modern medicine is not as important as many think.

Population growth in a number of South American and African countries exceeds 3% per year. In many industrialized countries with modern medical facilities, the population growth is less than 0.5%. Some relatively wealthy countries are actually declining in population.

The move from agriculture to manufacturing/technology has been a big factor in slowing population growth in industrialized countries. Farmers needed to have sons to help with the farm work. This was particularly necessary before mechanization. My own family records show that in the early- to mid-1800s in Australia, couples commonly had 8–10 surviving children. One couple had 16! And this was before the discovery of the germ basis of disease,[3] aseptic surgery,[4] vaccines[3] and antibiotics. Opportunity to expand, combined with biology, saw growth in population of 4% or more, plus increases due to immigration. High rates of population growth were also seen in Quebec, Canada, from 1760 to 1790, following the British conquest of Canada in 1759,[5] and well before the impact of modern medical knowledge.

In industrialized countries, the advent of social security pensions and retirement plans (superannuation) has probably been another major factor in the decline of population growth. These schemes mean that people do not see the need to have children for security in their old age. Furthermore, people can now easily choose how many children they have because of modern birth control methods, such as the contraceptive pill.

What growth rate is needed to get six billion people since the Flood?

It is relatively easy to calculate the growth rate needed to get today's population from Noah's three sons and their wives, after the Flood. With the Flood at about 4,500 years ago, it needs less than 0.5% per year growth.[6] That's not very much.

Of course, population growth has not been constant. There is reasonably good evidence that growth has been slow at times—such as in the Middle Ages in Europe. However, data from the Bible (Genesis 10,11) shows that the population grew quite quickly in the years immediately after the Flood. Shem had five sons, Ham had four, and Japheth had seven. If we assume that they had the same number of daughters, then they averaged 10.7 children per couple. In the next generation, Shem had 14 grandsons, Ham, 28 and Japheth, 23, or 130 children in total. That is an average of 8.1 per couple. These figures are consient with God's command to 'be fruitful and multiply and fill the earth' (Genesis 9:1).

Let us take the average of all births in the first two post-Flood generations as 8.53 children per couple. The average age at which the first son was born in the seven post-Flood generations in Shem's line ranged from 35 to 29 years (Genesis 11:10–24), with an average of 31 years,[7] so a generation time of 40 years is reasonable. Hence, just four generations after the Flood would see a total population of over 3,000 people (remembering that the longevity of people was such that Noah, Shem, Ham, Japheth, etc., were still alive at that time).[8] This represents a population

and destroyed (Genesis 6–9, 2 Peter 3) so that all people living today came from those who survived aboard Noah's Ark. A study of population growth clearly supports this Biblical record.

References and notes

1. For the nth square, the number of rice grains = $2^n-1 = 2^{63}$ for the last square, or about 10^{19} grains!
2. *Encyclopædia Britannica CD 2000*, Trends in world population.
3. Proven/developed by the creationist scientist Louis Pasteur (see Louis Pasteur (1822–1895), *Creation* **14**(1):16–19).
4. Pioneered by another great creationistscientist, Joseph Lister (see Joseph Lister: father of modern surgery, *Creation* **14**(2):48-51).
5. Armstrong, H.L., More on growth of a population, *Creation Research Society Quarterly* **22**(1):47,1985, citing Lower, A.R.M., *Canadians in the Making*, Longmans, Green and Co., Toronto, p. 113, 1958. There was little immigration in this period.
6. If r = % rate of growth per year, and the number of years of growth = n, then after n years, the population produced by the eight survivors of the Flood = $8(1+r/100)^n$. For a more comprehensive formula that takes into account longevity, number of children born and generation time, see Morris, H.M., World population and Bible chronology, *Creation Research Society Quarterly* **3**(3):7–10, 1966.
7. It is possible that the births mentioned are not the firstborn; they could just be the sons leading to Abraham. This would shorten the generation times and make the population growth even greater.
8. This answers a common sceptical objection regarding the population at the time of Babel about 100 years after the Flood. This dating assumes that Peleg was named because of this event (Genesis 10:25)—see In the Days of Peleg. However, his naming could have been prophetic, like Methuselah, who died in the year of the Flood and whose name means 'When he dies, it shall be sent'. If this is true, then Babel could have been some time after Peleg's birth, but during his lifetime.
9. The 'rule of 72' states that dividing 72 by the annual growth (in %) gives the years to double the population. This is an approximation that makes the calculations easy. A figure of 69.3 is more accurate (100 x ln2 = 69.3).
10. Even if the population were a million, the low reproductive rate would not be sufficient to eliminate harmful mutations. The mutational load alone would have ensured extinction. For details, see ReMine, W., *The Biotic Message*, St Paul Science, St Paul, Minnesota, 1993 (see my review and purchasing details).
11. Some extend the 'Stone Age' to a million years or more. Return to text.
12. Such as dinosaur bones in Montana, claimed to be over 65 million years old, but so 'fresh' that blood cells and hemoglobin are still present. See Wieland, C., Sensational dinosaur blood report! *Creation* **19**(4):42–3, 1997.
13. Osgood, A.J.M., A better model of the Stone Age, *CEN Tech. J.*2:88–102, 1986 and Part 2, *CEN Tech. J.*3:73–95, 1988.

growth rate of 3.7% per year, or a doubling time of about 19 years.[9]

If there were 300 million people in the world at the time of Christ's Resurrection,[2] this requires a population growth rate of only 0.75% since the Flood, or a doubling time of 92 years—much less than the documented population growth rate in the years following the Flood.

A remarkable coincidence?

The Jews are descendants of Jacob (also called Israel). The number of Jews in the world in 1930, before the Nazi Holocaust, was estimated at 18 million. This represents a doubling in population, on average, every 156 years, or 0.44% growth per year since Jacob. Since the Flood, the world population has doubled every 155 years, or grown at an average of 0.45% per year. There is agreement between the growth rates for the two populations. Is this just a lucky coincidence?

Hardly. The figures agree because the real history of the world is recorded in the Bible.

What if people had been around for one million years?

Evolutionists claim that mankind evolved from apes about a million years ago. If the population had grown at just 0.01% per year since then (doubling only every 7,000 years), there could be 10^{43} people today—that's a number with 43 zeros after it. This number is so big that not even the Texans have a word for it! To try to put this number of people in context, say each individual is given 'standing room only' of about one square metre per person. However, the land surface area of the whole Earth is 'only' 1.5×10^{14} square metres. If every one of those square metres were made into a world just like this one, all these worlds put together would still 'only' have a surface area able to fit 10^{28} people in this way. This is only a tiny fraction of 10^{43} (10^{29} is 10 times as much as 10^{28}, 10^{30} is 100 times, and so on). Those who adhere to the evolutionary story argue that disease, famine and war kept the numbers almost constant for most of this period, which means that mankind was on the brink of extinction for most of this supposed history.[10] This stretches credulity to the limits.

Where are all the bodies?

Evolutionists also claim there was a 'Stone Age' of about 100,000 years[11] when between one million and 10 million people lived on Earth. Fossil evidence shows that people buried their dead, often with artefacts—cremation was not practised until relatively recent times (in evolutionary thinking). If there were just one million people alive during that time, with an average generation time of 25 years, they should have buried 4 billion bodies, and many artefacts. If there were 10 million people, it would mean 40 billion bodies buried in the Earth. If the evolutionary timescale were correct, then we would expect the skeletons of the buried bodies to be largely still present after 100,000 years, because many ordinary bones claimed to be much older have been found.[12] However, even if the bodies had disintegrated, lots of artefacts should still be found.

Now the number of human fossils found is nothing like one would expect if this 'Stone Age' scenario were correct. The number found is more consistent with a 'Stone Age' of a few hundred years, which would have occurred after Babel.[13] Many people groups could have used stone tools as they moved out from Babel (Genesis 11), having lost the technologies of metal smelting (Genesis 4:22) due to the Flood and the confusion of languages at Babel.

Immigrant peoples, when they settled in a new area, would have had an initial phase where they would shelter in caves, or have rudimentary housing. They would have made use of stone tools, for example, while they developed agricultural techniques appropriate to the local soils and climate, found sources of ores, and rediscovered how to manufacture tools, etc.

Groups that descended into animism might never emerge from this 'stone age' of their development, because of the stifling effects of such things as taboos, and fear of evil spirits. One tribal group in the Philippines, for example, had a taboo against water, causing rampant disease due to lack of hygiene—before the Gospel of Jesus Christ rescued them from superstition.

Australian Aborigines—how long have they been in Australia?

When Europeans came to settle in Australia in 1788, it was estimated that there were perhaps only 300,000 Aboriginal people.[14] And yet today we are told that the people have been here for 60,000 years or more. Now there is no way that a mere 300,000 people had exhausted the plenty of this large country so as to account for a long period of very low population growth. If we allow for one-third of the land area as desert, it means that there was only one person for every 18 square kilometres (7 square miles) of habitable land area—hardly overpopulated, even for a subsistence existence.

If 20 people had come to settle some time after the Flood, say 3,500 years ago, it would have needed a population growth of a mere 0.28% per year to produce 300,000 people.

> ### Australian Aborigines — cultural traditions connect to Noah
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> In addition to population figures, there is much other evidence against the supposed long ages of Aboriginal occupation of Australia-the observed rapid deterioration of supposedly ancient paintings, for example.[15]
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> Furthermore, many Aboriginal tribes have stories, long predating their contact with Christian missionaries, of a global Flood, sometimes with startling similarities to the Bible's account, but with sufficient differences to show that they were not recently incorporated into their folklore following contacts with missionaries.[15] It is stretching credulity to suggest that these stories have been maintained by word-of-mouth for 40 to 60 thousand years, or that they were invented and just by chance have these incredible similarities to the Bible account.
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> The Aboriginal population and their stories are much more in line with their having been a nomadic/'gypsy' people who found themselves in Australia relatively recently—certainly after the Biblical Flood.

Such a minimal rate operating over 60,000 years could produce more people than there are atoms in the Milky Way Galaxy!

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