Thanks To The Ancient Greeks

George Wright (with maths advice from Ann Lawry)

Humans can identify complex relationships with each other and their habitats. I've come to think that the ancient Greeks who invented numerical theories were actually laying the groundwork for a study into the context of how we interact. They identified Prime Numbers which were divisible only by each number itself, and one. Examples are 1, 2, 3, 5 ,7, 11, 17, 19.... Also there are twin prime numbers that occur with only one whole number separating a couple of prime numbers such as (3&5), (5&7), (11&13)... With the exception of 3 and 5 all the others can be generalised as follows: (6n-1) or (6n +1). Similarly you can have Triple Primes generalised as (n), (n+2) or (n+6).

This raises the possibility that we have ignored some links between human characteristics. Numbers are inanimate but humans have more complex interactions Could the our egocentric approaches hide the objective information about ourselves and our relationships, actual or potential?

The possibilities become more enticing when we explore further. Primes can be divided into two groups: (4n + 1) or (4n – 1). For example, 13 is (4×3 + 1) and 79 is (4×20 -1). The first group can always be expressed as the sum of the squares of two numbers (For example, 2 squared + 3 squared = 13) but the second group can never be so expressed. Only two groups? It's a bit like political parties: Liberal or Labor, Republican or Democrat, Conservative or Labour. Although we claim to be diverse, perhaps we are more similar to clusters of numbers after all.

But it doesn't stop there. An Amicable Pair is comprised of two whole numbers each of which is comprised of the whole number divisors of the other. Consider 220 and 284. The sum of the proper divisors of 220 (I.e., those divisors less than 220 itself) is 284 (1 + 2 + 4 + 5 + 10 + 11 + 20 + 22 + 44 + 55 + 110 = 284). The corresponding sum for 284 is 220 (1 + 2 + 4 + 71 + 142 =220). You can see that each is the sum of the other's proper divisors.

We live in a societal mess but are there ways to simplify our relationships? I could think of no better outcome for our community if all our amicable pairs got together to provide a stable government. But alas, in the numerical community the Amicable Pairs are not interested in politics and in our society the politicians could hardly be described as amiable let alone amicable.

Ah well, let's just thank the ancient Greeks who somehow managed to explore the universe and explain what a diverse and interconnected world we live in that includes people, animals, things, deities and numbers which they demonstrated by capturing the dichotomy in their artistic works. At least we can relax when we look at their art, even if it's difficult to do so while attempting to understand their numerical theories and what we've done (or haven't done) with them.