Normal or not normal, that’s the question?

By Professor Jan Willem de Graaf
Professor of Brain and Technology, Saxion University of Applied Sciences, Deventer, Netherlands

Normal or not normal, that is the mores. Something is normal if it’s positioned between 1 standard deviation (SD) below and above the average. Abnormality is created outside the average zone (disorder/disease, or talent/excellence). According to philosopher Michel Foucault (1926-1984) normal distributions are instruments in modern control technology. In the 18th century, control technology emerged in architecture in the dome prisons, invented by Jeremy Bentham in 1791.

In the panoptic, isolated (criminal) individuals were made visible for the corrective power. The prisoners sat in individual cells, continuously monitored by a jailer from the centre of the circular complex. According to Foucault modern power is continuously present and therefore opposed to old centralized power of regents. Let’s first focus in on normal distributions in order to understand both that human-scientific power is built on continuously monitoring and that disorders are certainly just as much produced as “discovered”.

Normal is a concept that stems from two very interesting mathematical concepts: the normal distribution and the central limit theorem. People possess infinite numbers of properties. By far the largest number of them are unknown, they don’t matter to our reality. However, through our knowledge systems - perception and thinking - we transform infinite into finite: height, weight, intelligence, kindness, wealth, strength etc. The sum of a large number of independent variables forms a normal distribution again. Think of a Bell curve that is the highest in the middle. If you measure the surface underneath the curve in equal vertical columns, it will evolve from low to maximum halfway to low again at the end. The highest point, the average, is halfway. A normal distribution has fixed properties.

If sufficient measurements are made almost everything, no matter how arbitrary, is normally distributed: the length of trees, blades of grass, people, or the age of inhabitants of a certain city, etc. Once you know the mean and the variance, the distribution is known (for instance 68% of the observed characteristics is normal: between 1SD below and above the average. Above 1SD one is for instance smart, or obese. Notice that also completely arbitrary properties can be captured in a normal distribution. However, ethical labels such as justice are not properties of the distribution.

When it comes to wealth, the same distribution applies. From this it can be deduced that for example the 1% richest people own more than the others. Enter any other property for wealth and the distributions can be made again. In fact, this “game” of distributions around attributes has given birth to a life of its own. The position and power of human sciences are largely derived from this. The image of the normal (healthy) person is produced at the expense of everyone who deviates from it. And precisely this power surrounds us, in the lifestyle magazines, in education, in psychology, in pre-school ratings and in insurance premiums, like Orwell’s 1984: big brother (Dr. Psych) helps us to become normal again (opaque, but always present).

From birth we are positioned in various rows (distributions). Fortunately we usually end up somewhere in the 68% margin around the average. We are either normal, or disturbed or gifted. Precisely because we all internalized normal distributions individually, we are submissive to the distributions without resistance, just like the prisoners in Bentham’s dome. We’ve become our own and the others their jailers and big brothers: we can always be seen, but never know when we are watched.

Certainly human sciences are not value-free. They hide the fact that distributions are side effects of mathematical descriptions of traits. Every person can also be described in qualities in which (s)he belongs to the absolute top (and minimum). However, probably humanity isn’t interested in those distributions in which you achieve the top. But then again, being neurotic, being rich, or being intelligent according to an IQ test is ultimately also arbitrary.

Nowadays we are constantly being digitally surveilled (allocated to virtual distributions) by among others advertisers and service providers. It’s inescapable. But people, let’s face it, psychology and psychiatry creating its own disorders and services through normal distributions are not much more scientific than the shamans of yesteryear!