ZULF'S HYPOTHESIS: ASYMMETRIC BINOMIAL EXTENSION OF EXPONENTIAL DISTRIBUTION IN HUMAN MORALS

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1. Search For Fundamental Model For Exponential Distribution

We return to Simeon-Denis Poisson's original analysis of Poisson distribution (the discrete exponential) as an explanation of moral goodness in Human Race.

We make the hypothesis now that in fact underlying these is a *Binomial* distribution with small $p < 0.5$ that gives it an exponentially decaying skew.

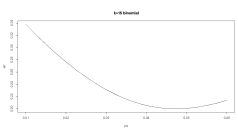
I better announce this model to the world. This has a very high chance of being powerful for the Human Race Morals.

2. Error does not dip below 0.2

```
binom<-function(p,n,k){
  exp(log(choose(n,k))+k*log(p)+(n-k)*log(1-p))
}

bv<-function(p,n){
  z<-rep(0,10)
  for (k in 1:10){
    z[k] <- binom(p,n,k)
  }
  nrm(z)
}

ps<-seq(0.01,0.06,by=0.001)
err<-rep(0, length(ps))
for (r in 1:length(ps)){
 z<-bv(ps[r],15)
 err[r] <- norm(y-z,type="2")
}
```



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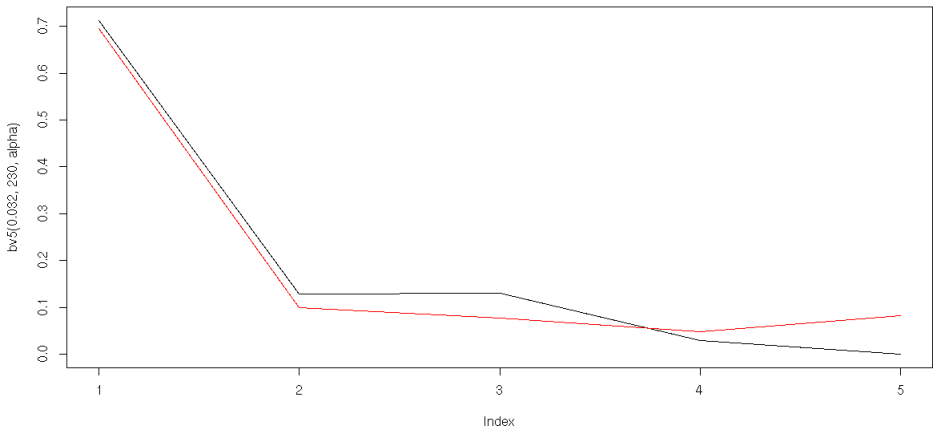
3. A Rescaled Binomial Might Work Better

Consider a rescaled binomial distribution family as follows. For $\alpha > 0$ we consider the density $\alpha^{-1}p(x/\alpha)$. We consider p an ordinary binomial.

The error is a bit better.

4. New Hypothesis



We hypothesize three components of the data distribution. It is a mixture of three components: (a) major component that is scaled binomial, (b) ambivalent people, (c) inverse exponential on the right end. We're concerned mostly on left exponential I am calling

Parameters for the left end fit above are:

$$\alpha = 3.7$$

and

$$n = 230$$

These adjust the major part of the distribution matching the first two components very well.