Probabilistic Distribution of Human Events (Secular Karma)

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1 Theory

Karma is originally a religious concept, which means action, work or deed; it also refers to the spiritual application of Newton's Third Law, Cause and Effect, where intent and actions of an individual (the Cause) influence the future of that individual (the Effect). Good intent and good deeds contribute to good Karma and future happiness, while bad intent and bad deeds contribute to bad Karma and future suffering. It has been very popular since long, and many claim the validity and manifestations of it.

However, there are other interpretations of Karma as well. Social Science introduces a concept, *History repeats itself*, which, if perused, is a secular and academic interpretation of Karma. According to this, history is a record of periodic recurrence of similar events, in different time intervals. Human actions create similar circumstances, thereby necessitating the repetition of actions or events of similar nature, in every time frame. Mathematics presents a probabilistic interpretation of Karma. In statistics, the probability distribution, *Standard Normal Distribution (Bell Curve)*, as displayed in Figure. 1, captures the behaviour of most of the events and situations in the universe (hence the name *normal*). The large sum of (small) random variables often turns out to be normally distributed, contributing to its widespread application. Its validity is well proven.

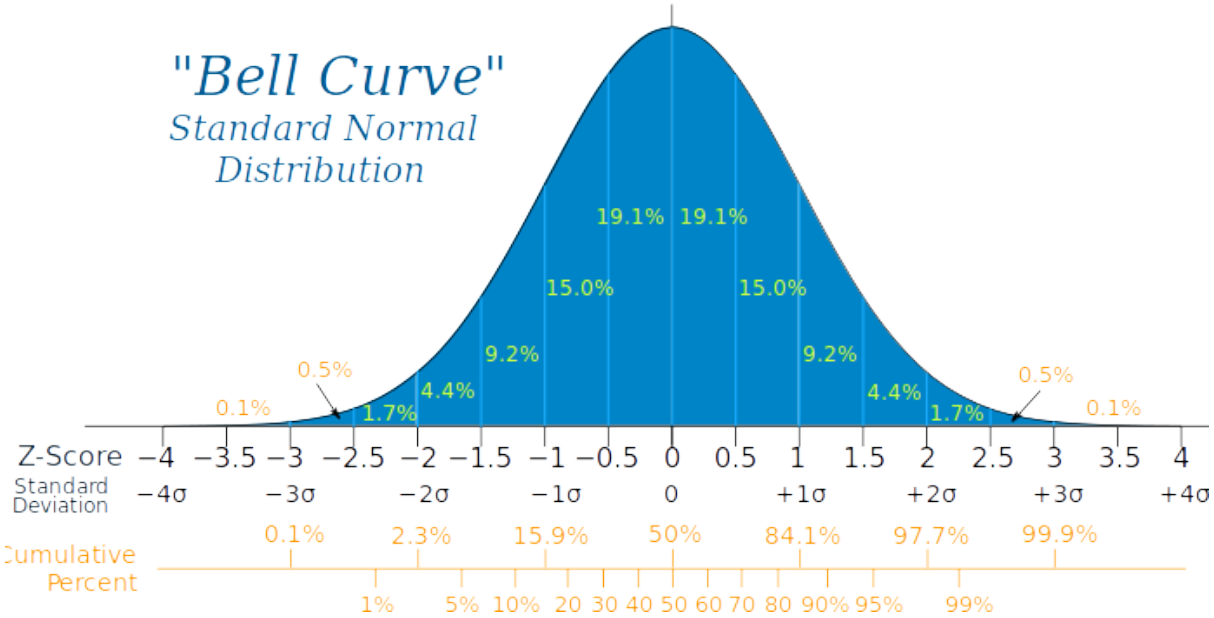

Figure 1: Standard Normal Distribution (Bell Curve)

All events and actions from every human to have ever lived since the dawn of human civilization constitute a set of human social events. Following the Bell Curve theory, the occurrence of each event from this set has a probability associated with it. When I act, if the nature of my action is new, its added to this set, but if its already *in* the set, then the probability of that particular event (action) increases. Much of the actions that are normal, i.e., those whose event-points lie within the first or second standard deviations are those which are most probable of occurring. Such *normal* actions are the most common among people. Those actions which are rare to find, i.e., which are positive and negative extremes lie away from the centre. Consequently, those who commit these rare actions are

also rare. Now, more an action is committed, more it drifts towards the centre, and this acts as progressive reinforcement. But, given that the normal events occupy the centre, it leads to the conclusion that such normal actions are the most probabilistic. Therefore, if every human action (event) is recorded and plotted, it would probably assume the shape of a Bell Curve.

Going by the human behaviour, any event encourages its repetition, which is also referred to as group behaviour, under some circumstances. Kindness encourages kindness while hatred encourages hatred. Thus, any committed event increases its chances of being repeated, through any of the member of the human species, in any time frame. This leads to the statement, History repeats itself. The nature of that event is passed on through family, friends and generations. This is similar to Karma. According to Karma, when a person acts, she is destined to be the recipient of a similar nature act in the future. If she commits an immoral act, she is destined to be the recipient of the same in the future. Previously, I've mentioned that upon acting, the probability of repetition of that event increases. Therefore, any event triggers a chain reaction, wherein this act is likely to be repeated. The actor, among many others (who may or may not have committed a similar act in their past) become recipients of this very act. Thus, this probability, when viewed from an individual perspective, is ignorantly interpreted as Karma.

However, committing an action is itself probabilistic. A rare action has equal probability of repetition compared to the normal ones, if committed, i.e., rare actions, if and when they are committed, do influence others to commit the same. However, their perpetuation and sustenance decays fast, as people naturally drift towards the normal centre. And, given the rarity of such actions, the attitudes they represent are rarely retained. We do witness random acts of kindness, but rarely. However, if a normal act is committed, it doesn't demand much energy from the actor to sustain it or the attitude that accompanies with it. Therefore, the chances of it being committed, and people being recipients of it, is naturally increased, drifting more towards the centre [as in Figure. 1].

Coupling this with Karma, if a person commits a positive act, then no doubt, it will be replicated by others, but its hard to sustain, unless there is constant reinforcement. This is where the general social attitude matters. Each society has a unique distribution. Over time, this external reinforcement might change the nature of the person itself. And therefore, there is also the case wherein, culturally, certain types of action might be more probable. However, given that it cannot be isolated from the world, it is bound to gradually decline. Reverting back to Karma, if a malevolent act is committed, it too will be replicated by others towards others. Therefore, in an event set comprising a mixture of positive and negative events, a person who has committed a positive action might be recipient of a negative action, i.e., he might not get what he deserves, and vice versa. In the case when an undeserving person receives more than what he deserves, people ignorantly and incorrectly regard it as luck. But, in fact it is an **interplay of probability.**

Further, a person committing positive action is generally someone who is mature, responsible or simply a benevolent citizen. This inner alignment of values and morals is visible in their personality, attitude towards others, or in their actions. Many times, certain traits are misattributed. A completely neutral, or even an undeserving person is regarded as malevolent, or vice versa, without a deep evaluation. In some cases, bad

intentions are disguised as positive actions. These are the cases of false positive data instances. Therefore, looking at all these misattributed events it can be concluded that even Karma is never accurate. A rare self-occurrence or self-repetition of an event doesn't prove its validity. It just proves that Karma is probabilistic at best; no one is destined to receive anything in return, especially in proportion to the nature of their actions and attitudes. What one receives is a matter of probability of that action, at that particular instance of time and space.

Considering the large expanse of human and natural history, the actions and events, rather than their impact on the actors is important. An action when committed increases its chances of being repeated. An anti-state protest is a common example, which happens across the world, under different but similar circumstances. The surreptitious involvement of any non-state actors in instigating such protests isn't unusual either. Many contemporary nations are guilty of such clandestine activities, though they reject such accusations bluntly. Subservient activities are as old as human civilization itself, with it being available even in coded form (*Kautilya's Arthashastra*). Wars, protests, suppression etc. are events that are common in human history and hence have greater probability associated with them. Their next occurrence is not a matter of if, but when and where.

1.1 *Social Contagion of Ethnic Hostility* - a case study

In a recent study[1] conducted in Europe among the Czech-Slovakia population, it was evident that the decision of first time actor(s) largely influenced the behaviour of the successors. According to the research, hostility towards ethnic minorities is contagious and the acceptability of destructive behaviour towards them can easily change depending on others' behaviours. "Social norms regulating anti-social behaviour are very fragile if this behaviour is aimed at ethnic minorities," according to the researchers.

The study was conducted in eastern Slovakia, a district with a large Roma ethnic minority, in 2013, based on a game in which the players - 327 school children from the majority ethnic Slovak population aged 13 to 15 - first received 2 Euros each. Then they had to decide whether to pay 0.2 euros to reduce their rival's funds by half - a "destructive" choice - or whether to keep the payoffs unchanged.

Next, in groups of three, they played against potential rivals represented by a list of 20 typical Slovak majority or Roma minority names, with all three players making their choice one after another. The hypothesis that susceptibility to follow peers becomes magnified when harm is done to ethnic out-group members compared with co-ethnics was tested. The results were striking - it pointed out a significant influence of peers in decision-making on doing harm to the minority. If the choice of the first child was peaceful or cordial towards the minority, only 19 per cent of the second decision-makers were hostile. But a total of 77 per cent of second decision-makers showed hostility if the first child to choose had been hostile. Among the third decision-makers, only 18 percent were destructive if one or both their predecessors were peaceful, but 88 percent were destructive if the previous two showed hostility. Besides, the participants saw hateful behaviour towards the Roma as more socially acceptable if somebody else treated the Roma with hate.

[1] Michael Bauer et al. "Social Contagion of Ethnic Hostility". In: (2018).

While this study is specific to the Slovak-Roma population, the majority-minority differentiation, however, isn't provincial. Universally, there is differentiation based on ethnicity, race, religion, sex, caste, etc. And, the basis of this study can be safely applied universally, while being confident of similar results. This study broadly conveys two things: One, the more an action is committed, its chances of being repeated also increases. A destructive behaviour encourages the same, and a positive behaviour encourages the same as well. Also, the actor, along with many others are likely to be the recipients of such action. Two, each culture has its own set of events and therefore a unique probability distribution of events.

Corroborating this with Karma, once an action is committed, its probability of repetition increases, which implies that more people, including the actor, are susceptible, or "destined", to be a recipient of a similar action. Now, is it the destiny of the minority to face gratuitous retribution at the hands of the majority, even if most of them aren't guilty of anything? What was their past Karma for having deserved this? This hatred and violence against the minority doesn't seem justified, because it isn't. Karma cannot justify such actions. This only happens because of a trigger and accumulation of probabilities that follows. This is Karma, History Repeats Itself and the Probabilistic Distribution of Human Events.

2 Programming Implementation

Through implementation by way of programming, I plan to verify the presented theory that human actions and their consequences are bound by probability, which is the major determinant, given the personality and external conditions as variables. I'm working on designing an **individual program (digital human)**, which mimics a real individual: It has a personality, commits actions and is also capable of self-replication. Using the personality and external environmental conditions as variable inputs, the list of possible future actions along with their probabilities can be determined. And all these actions triggers many more possible actions. Starting with a few hundreds or thousands of such individual programs, a corpus of the action set can be generated. Initially, they will definitely be inaccurate, and will be far from resembling real human action-events. But, upon continuous execution they might begin to converge on the real world scenarios.

Right now, for the human program, I have classified its personality into the following base categories: **Benevolent, Indifferent and Malevolent**, and colour coded these personalities with RGB, for easier interpretation, with Benevolence mapped with Blue colour, Indifference with Green and Malevolence with Red. Upon interaction with the other such programs, i.e., after being recipients of actions from others, the personality changes subject to the individual integrity, similar to the new colours arising out of intermixing of RGB. I've further included features such as **morality and integrity** on the one hand and evolutionary **survivalist, domineering and selfishness** on the other, all in varying degrees in each program. The distribution of these personalities and their respective degrees is probabilistic as well.

Now, once an action is committed, it is added to the event set, if not already present. If its already present then the probability of the nature of that action increases. Once the event set is large enough, it should assume the shape of a Bell Curve, once plotted. This can be corroborated with the real human historical data. With different initial conditions, the graph might probably assume a similar shape, but with a different arrangement of actions, or may another shape altogether. I can even set a custom initial environmental or societal condition and derive custom simulations. Prof. Stephen hawking, in the final chapter of his book, *The Grand Design*, explains the self determinism of the human world with a simplistic example. Given an initial condition, with a certain set of laws, the organisms in it can self generate. This would give us an understanding as to the parameters and conditions required to drive the real human world along desired paths, which, retrospectively, can help in human behaviour prediction.