The Etymology of Risk

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Abstract

The current concept of risk is inherently unstable. This instability has clear operational costs, in the form of conceptual errors, as inconsistent lexicons are shared between academic and professional disciplines. In utilizing the etymology of the word risk as an epistemological tool, it becomes apparent that while a meta-definition of risk is not possible, allowing stakeholders to simply define risk for themselves is irresponsible and unsustainable.

The Etymology of Risk

Walk up to any adult and ask them to define the word risk. The vast majority are going to have a quick and ready reply. The question, however, is whether or not these replies would be consistent from person to person. The answer is no. There are currently multiple disciplines using multiple definitions of the word risk (Hall, 2002). Surely, however, there must be some root, some commonality, so these risk professionals could agree.

"Many of you here remember that when our Society for Risk Analysis was brand new, one of the first things it did was to establish a committee to define the word "risk". *This committee labored for 4 years and then gave up, saying* in it's final report, that maybe it's better not to define risk. Let each author define it in his own way, only please each should explain clearly what that way is (Kaplan, 1997)."

It would appear that the concept of *Risk* is so unstable that a meta-definition is simply not possible. The operational costs of this instability are the result of academic disciplines and professional industries collaborating on issues relating to human interaction with uncertainty while using an inconsistent lexicon that is a catalyst for conceptual errors. The challenge in trying to identify these errors, however, is that any discussion on the subject would be hindered by the use of the same inconsistent lexicon. In attempting to overcome this challenge, this paper will trace the etymology of risk as an epistemological tool. In tracking the evolution of the meaning of risk, we will seek to understand its current meaning and application by following it's metamorphosis through time.

The Whim of the Gods

In examining the evolution of risk it is first necessary to navigate around an epistemological barrier. It is not enough to simply ask "Historically, how did people interact with uncertainty?" without understanding the context in which they were acting. People interact with uncertainty is based upon the nature of their culture, religion, scientific evolution, etc. For example, the modern technical understanding of risk cannot be divorced from the principles of Probability Theory. Therefore, in researching the evolution risk, it is necessary to find a method to help us comprehend how people interacted with uncertainty *prior* to Probability Theory. One such method might be the critical examination of mythology to specific cultures.

Around 140 B.C., some 300 years after the death of Plato, a person named Apollodorus is attributed to writing *The Library* (Apollodorus and Frazer, 1921), in which can be found the story of how the Greek Gods came into power.

"And then the Cyclopes gave Zeus thunder, lightning and thunderbolt; they gave Pluto a helmet; and they gave Poseidon a trident. Armed with these weapons they overcame the Titans, threw them into Tartarus and made the Hundred-Handers their guards. As for themselves they cast lots for the kingship and Zeus received power in the sky, Poseidon power in the sea and Pluto power in Hades (Apollodorus and Frazer, 1921)."

Why did the "gods" need to draw lots? Most modern churchgoers, for example, would not even consider that their god might not be in control of it's own destiny. By drawing lots the gods showed that even they were not exempt from the powers of the Morai, or as we know them, the

three sisters of fate (the Fates: Clotho, Atropos and Lachesis). The Fates are in charge of the destiny of both men and gods (Grimal, 1985). The expression "do not tempt fate" comes from that time, meaning: do not anger the gods through foolishness or pride, or they will cut your lot short. To live in ancient Greece was to understand that while you could make decisions in your life that would affect your destiny, ultimately it was within the context of your pre-ordained fate. The concept of risk as we know it was born in this context, under those assumptions.

Greek

There is a passage from Plato's *Republic* where Socrates puts forth the argument that children should be exposed to war, in order to learn its craft.

"That is so, but the *risk*, Socrates, is not slight, in the event of disasters such as may happen in war, that, losing their children as well as themselves, they make it impossible for the remnant of the state to recover." "What you say is true," I replied; "but, in the first place, is it your idea that the one thing for which we must provide is the avoidance of all *danger*?" "By no means." "And, if they are to take *chances*, should it not be for some success which will make them better?" (Plato, Fowler et al., 1914); emphasis added by author)

It turns out this passage is an excellent example of the obstacles one faces in the pursuit of etymology. The word "risk" that is used in that passage is a translated version of the Greek word Kindunos: danger, hazard, venture (Scott, 1940). At first glance, this seems perfect, for it is similar to the definition that is used in the Italian Risichio that shows up centuries later in the *Vocabolario* (Beni and Martini, 1612). The subtle flaw in this assumption is, that upon closer examination of the Greek translation, the words, *Risk*, *Chance* and *Danger* (they are all

Italicized) are all derivations of the word Kindunos.₁. Thus, you cannot help but wonder what it was about the word that made the translator choose the word Risk. Why not danger or chance? Perhaps, because of the fatalistic world view of the time, the outcome of the "Risk" was not as important as was the character of the "Risk." For example, most definitions of risk in today's time define it by its outcome: "Potential for loss…" If you are unable to conceive of a predictable future, this type of definition may not be relevant. It is the recognition that the value of Risk is defined by both the context, and the perception, of the interaction with uncertainty. The word *Kindunos*, however, may not be the Greek root of the word we know today as risk. The reason for this is the fact that there is another word, *Peirao*, closely related to *Kindunos* in meaning. *Peirao* is defined as: To attempt, endeavor, try to do, to try ones fortune, to make an attempt by sea, to make trial of one (Andrews, 1879). While we may never know why the translator chose Kindunos over Peirao, we do know that Andrews referenced Peirao when defining Periculum.

Latin

As Ancient Greece faded and the Roman Empire came into power, so did their language - Latin. The result is that the word **Peirao** was soon being translated into the word **Perîculum**: 1. a way through, passage, a trial, experiment, attempt, proof, essay (class. cf. disorimen). 2. Risk, hazard, danger, peril (which accompanies an attempt; the common signif. of the word) 3. To run the risk of one's life, to get into danger, to release from danger, to do a thing at one's own risk, Dig. 23, 5, 16: (Andrews, 1879); see also Du Cange, 1678).

The duality of risk becomes clear in this definition, with authors often using the word to denote both danger and a bold or courageous gesture. In the writings of Tacitus, in 109 A.D., he uses the verb form of Perîculum (Periclitando) to describe one of the tribes of Germany: "Though surrounded by a host of most powerful tribes, they are safe, not by submitting, but by *daring the perils* (Periclitando) of war (Tacitus reprinted 1942)."

Over and again we see that the context and the perspective define the notion of risk. For in this passage risk is not simply the "perils" that are relevant, but rather the courageous gestures people made in interaction with those perils.

Medieval and Late Latin

Somewhere around 14th century the word **Perîculum** evolved into the Latin **Risicum** (Andrews, 1879)."₂.

"The election of the sovereign of the city of Hortana in the year 1359: This said sovereign should come with his aforementioned officials, attendants and steeds, two days before his investiture ceremony and with respect to every risk (Risicum) and chance (fortunem) of the sovereign himself in coming, remaining and returning (Du Cange, 1678)."

The word **Risiscus** or **Risicum** is defined by Du Cange, in 1678 as: danger, venture or risk, crisis (Du Cange, 1678). It is important to remember that the term "crisis" originally meant decision, or unknown outcome (Oxford University Press, 2000). Just the same, the duality of risk

continues to remain within the definition. At the time, the word venture indicated a daring choice in the face of uncertainty, as in "Nothing ventured, nothing gained".

At the beginning of the 16th century Europeans began to understand that they did have some small measure of effect on their own future. Evidence of this can be seen in the evolution of the word Prudence: "Prudence, both the word and the idea, changed meaning about the 16th century. In courtly language, prudence denoted cowardice, the lowliness of the frugal, devoid of honor, selfish. The meaning switched. The prudent were the wise who accepted the moral duty of attending to the future, of saving for a rainy day, the virtue of foresight (Hacking, 2001)." For the virtue of foresight to exist, it would logically follow that there must have been some notion that the future is somewhat predictable.

Italian

While the first mono-linguistic Italian dictionary was not written until 1612 (Beni and Martini, 1612), the first Italian to English dictionary was written in 1598, by John Florio. It is titled *A worlde of wordes, or Most copious, and exact dictionarie in Italian and English* (Florio, 1598) and is the first dictionary to reference the word **Riscare**: "to hazard, to aventure, to jeaopard, to endanger." (Florio, 1598). It is interesting to note that in both the first Italian Dictionary of 1612, and Du Canges work in 1678, the etymology of **Risicare** and **Risiscum** include the word **Periculum**.

It is also interesting to note that in modern Italian dictionaries the definition remains primarily the same "**Risicare**: To risk, to venture, to dare. "Nothing ventured, nothing gained." **Risico:**

danger, to run the risk of, hazardous. "You risk with the possibility to bear or undergo self damage or injury or inconvenience or loss, particularly of property value or self worth or integrity (Battaglia, 1961)."

French

In 1606, Jean Nicot authored the very first French dictionary, *Thesor de la langue francoyse, tant ancienne que moderne*(*Ranconet, Nicot et al., 1621*). Within this dictionary there is no mention of the word **Risque**. Five years later, however, in 1611, an English lexicographer named Randle Cotgrave published *A Dictionarie of the French and English Tongues*. Within it, we find the word **Risque** defined as: *f. Perill, jeopardie, danger, hazard, chance, aduenture*. This definition is followed by the notation "Ie le prens a ma risque. Hab or Nab, at my peril be it, happen how it will (Cotgrave and Hollyband, 1611)." It is important to recognize that the word Adventure remained in the definition, as it had for over a thousand years. Then, 43 years after Cotgrave published his dictionary, two French mathematicians, trying to solve a gambling problem, would forever change the way we interact with uncertainty.

The Arrival of Probability Theory

"In July of 1654 Blaise Pascal wrote to Pierre Fermat about a gambling problem which came to be known as the problem of Points: Two players are interrupted in the midst of a game of chance, with the score uneven at that point. How should the stake be divided? The ensuing correspondence between the two French mathematicians counts as the founding document in mathematical probability (Gigerenzer, 1989)."

In solving their little gambling problem Pascal and Fermat were to fundamentally change the way human beings perceived their world. For the first time in history human beings could quantify the probability of a future event. In doing so they are able to show that Risk and Uncertainty are not the same thing, and that human beings can influence their own destiny.

"It is notable that the probability that emerged so suddenly is Janus-faced. On the one side it is statistical, concerning itself with stochastic laws of chance processes. On the other side it is epistemological, dedicated to assessing reasonable degrees of belief in propositions quite devoid of statistical background." (Hacking, 1975)

It is critical to note that throughout its history the concept of risk has included the word adventure or venture. It is only when it reached the Italian language that it is supplemented with the phrase "to dare," to define context. Just as it is today, the difference between being daring or foolish is often determined by the outcome. If you succeed in an uncertain arena you are a hero; if you fail you are foolhardy. This speaks directly to the challenge we as a species have always faced: how to make decisions without knowing the outcome?

Historically, the most common knowledge about uncertainty came from studies of gambling (David, 1962). One of the ways in which we can see this is through the etymology of a word that is most often used to define it: Hazard. "Hazard' is generally attributed to an origin in Arabic, al-zahr (= the dice, though this is not in classic Arab dictionaries). Arabic khatar does mean 'to bet, or gamble,' and the word azar appears in Spanish around 1100 A.D. denoting a game of chance; and thence proceeds through French hasard into English with the same meaning

(Handmer, 1992)." The role that gambling played in the evolution of risk would turn out to be quite significant.

"The Church condemned gambling and usury as morally wrong, but it was impossible to disregard the existence of risks in commercial life analogous to gambling risks, and these risks had to be accepted as legal. Hence, a new class of contracts called aleatory contracts came into existence embracing marine insurance, life contingencies, inherent expectations, lotteries, and risky investments in business. The basis of such contracts became the specification of conditions of equity of the parties involved, which required assessment of risks combined with the possible gains and losses. An aleatory contract thus corresponded to a fair game, that is, a game in which participants have equal expectations (Hald, 1990)."

It is this pursuit of "a fair game," that has evolved into the current dominant operational applications of risk.

While there is certainly no doubt that the ramifications of probability theory have had an effect on almost every aspect of our life, the average layman does not go about making everyday decisions based on the mathematical probabilities. In other words, while there was a paradigm shift following the discovery of probability theory, an aspect of that shift was only relevant to a scientific subset or "…a paradigm for many scientific groups, is not the same as a paradigm for them all (Kuhn, 1996)." One of the results of this is that we are often not judged by what a lay person might perceive as a reasonable intention *before* an event, but rather what a risk professional considers an appropriate probability *after* an event.

History has shown that once scientists could quantify the potential for loss in mathematical terms, they often dismissed all other approaches to dealing with risk as superstitious, irrational and invalid (Gigerenzer, 1989). The impact of the paradigm shift within the scientific subset of probability theorists is that the notion of adventure gets relegated to irrationality, even though normal lay people continued to view choices in the face of uncertainty as they always had- a matter of chance, fate and luck. The question remains, how did this scientific subset create a definition of risk that would so quickly be absorbed by mainstream society, even though it was apparent that mainstream society did not interact with uncertainty based on probability?

English

On the outskirts of London, in 1656, a Catholic attorney named Thomas Blount is unable to find work due to the ongoing Reformation (Bongaerts and Blount, 1978). As a result he decided to pursue his interest in lexicology and author the first mono-linguistic dictionary in the English Language₃. It is titled *The Glossographia*: or A dictionary, interpreting all such hard words of whatsoever language, now used in our refined English tongue with etymologies, definitions, and historical observations on the same. Also the terms of divinity, law, physick, mathematicks, and other arts and sciences explicated. Very useful for all such as desire to understand what they read (Blount, 1661). Within it, Mr. Blount would define a number of words including Risk.

Risk: (Fr.) Peril, Jeopardy, Danger, Hazard, Chance.

As the reader will no doubt notice, there is a singular difference between Cotgrave's definition and Blounts definition; the omission of the word **Adventure**. Perhaps Blount did not reference Cotgraves definition when writing the *Glossographia*? We know he did because in his

introduction, "To the reader", he acknowledged Cotgrave, and Florio's work. Is it possible then, that he was simply unfamiliar with the word? In examining early English court cases we note that the word Risk or Risque appears in trial records from 15654, 15845, 16186 (Reports, 1900). In each case, the context of risqué being discussed is financial loss, or the potential for financial loss. As an attorney, who has passed the inner temple (Bongaerts and Blount, 1978), Blount must have interacted with these concepts. Perhaps the reason Blount did not include *Adventure* in his definition is that, being an attorney, he thought of risk in those narrow terms related to "potential for loss." The flaw in this assumption, however, is that later Blount would also write the: *Nomo-lexikon, a law-dictionary interpreting such difficult and obscure words and terms as are found either in our common or statute, ancient or modern lawes: with references to the several statutes, records, registers, law-books, charters, ancient deeds, and manuscripts, wherein the words are used: and etymologies, where they properly occur (Blount 1670)* one of the first English Law dictionaries, where he does not even mention the word risk.

The net result is that the English language came to understand only half of the duality of risk: the potential for loss. From that point onward, issues that can play a role in the decision making process, such as courage, whimsy, serendipity, were labeled irrational. Consequently, there has been, and continues to be, paradoxes and exceptions that plague the English definition of the word risk.

Four Hundred Years of Irrational Behavior

To really understand the impact that Thomas Blount had on our current existence, we only need to look around at how people interact with risk on a formal basis. For example, if we were to

examine a profession that dealt with human interaction with uncertainty, but is not normally associated with risk analysis, would we find conceptual errors?

Case Study: Risk and Adolescent Development

Adolescent development is a field that is often dominated by issues dealing with "at risk" children. Furthermore, it is also a field that interacts with multiple stakeholders that have not been schooled in risk analysis, but nonetheless are clearly working with issues surrounding human interaction with uncertainty. How do these stakeholders appear to interpret the concept of risk?

Dr. Marvin Zuckerman, a psychologist who pioneered sensation-seeking theory, claims that we are genetically predisposed to risk taking. He claims that it has been an integral part of our evolution as a species (Zuckerman, 2000). John Tooby, an evolutionary psychologist, theorizes that early hunter-gatherer risk takers were more likely to survive and therefore pass on the trait (Greenfeld, 1999). Dr Lynn Ponton, author of *The Romance of Risk: Why teenagers do the things they do* states that; "When we assume that all adolescent risk-taking is bad, we fail to recognize both very real dangers some risks pose and the tremendous benefits that others can yield (Ponton, 1997)." A number of researchers in the field of adolescent development have agreed that adolescents need to take some sort of risks to achieve their adult identity.(Lightfoot, 1997; Ponton, 1997). At the same time, local and regional governments have defined risk taking by its "potential for financial loss" and have sought to legislate against risk taking behaviors. "The period of adolescence, in particular for boys, is a time for experimentation, risk taking, and recklessness that would lead to the arrest of almost everyone if the law were applied strictly

(Benson and Pittman 2001) ." As a result you have multiple stakeholders, dealing with the same issue; "Adolescent's exposure to Risk", and yet failing to clearly define what each of them mean by the term "risk₈" or "risk taking". Is it a good thing, a bad thing, a sign of courage, a sign of pathology? The fact is, however, that risk is not currently perceived as value neutral.

An attorney, cautioning a town against a skate park because of the potential for litigation, will often win the argument, even in the face of a professional youth worker advocating for the need for adolescents to take risks or have adventures. The fact is, all things being equal, a detailed argument using the precautionary principle, or probability of short term loss, will almost always win against the long term possibility of hope in the context of social development.

Conclusion

It is no longer reasonable to suggest that a meta-definition of risk is possible. It remains even today a "Janus-faced" concept. At the same time, it is irresponsible to suggest that people have to define risk for themselves. For the simple fact is that there are some industries whose application of risk is better researched and operationalized then others. The result being that a stakeholder with an unstable operational definition of risk will remain at a disadvantage when arguing for a specific position in the face of an uncertain outcome against a stakeholder with a clearer definition. While a youth development professional may know that enabling teenagers to skateboard may reduce their potential for delinquency, the town attorney is well supported when stating that the risk of litigation is too great. Without detailed, quantitative research to support conjecture, the youth worker will ultimately lose, even though they may represent the greatest potential for having a sustainable and successful community for the future.

There are consequences to using an inconsistent lexicon. There are both conceptual errors that exist as well as a power differential between stakeholders that have varying definitions of Risk. Looking into the future, the one constant that we know will exist is change. Technological, as well as social change, are facts of life and this means that more and more people are going to need help navigating uncertainty. Without a clear and balanced lexicon regarding risk and human interaction with uncertainty we face not only conceptual errors, but clear operational costs.

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read. The second edition, [] above five hundred choice []. By T.B. of the Inner-[]. London, printed by Tho. Nevv[comb and are to be sold by] Humphrey Moseley at the P[rince's Arms in St Pauls Church-]yard and Georg[e Sawbridge at the Bible in] Ludg[ate-hil.

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Footnotes

- Kindunos(risk), kinduneusai(danger), kinduneuteon (Chance) The translated text is based on Plato. Platonis Opera, ed. John Burnet. Oxford University Press. 1903. As provided by the Perseus Project www.perseus.tufts.edu.
- 2. This is discussed in both Andrews and Du Canges.
- 3. The other three earlier dictionaries are "Robert Cawdrey's *A table Alphabeticall*(1604)(Cawdry 1604), John Bullokar's *An English Expositor* (1616) and Henry Cockerams's *The English Dictionarie* (1623) (Bongaerts and Blount 1978) Neither Risk nor Risque could be found in any of these dictionaries.
- 4. "The cause of the warranty is not examinable by a privy or a stranger, because the law believes that he has just cause for entering into the same, and presumes that otherwise he would not have run such a *risque* as he has done." Basset and Morgan v Manxel 2 Plowden Appendix 1, 75 ER 835 Report Date: 1565 (Reports 1900)
- 5. "These, also, generally drove the plaintiff to a new assignment; for though he might traverse them, yet in doing so he ran a great *risk*" Thoroughgood v Cole 2 Coke report 5b, 76 ER 401(Reports 1900)
- 6. "If money be lent on a risque at more than legal interest, and the Casualty affects the interest only, it is usury." Roberts v Tremayne Croke Jac 507, 79 ER 433.
- 7. Nomolexicon was the fourth legal dictionary. The others were "Lez Termes De La Ley, John Cowell's *The Interpreter* and Edwards Leighs *Philologicall Commentary*" (Bongaerts and Blount 1978).

8. The Book *Building Supportive Communities for At-Risk Adolescents* has four separate definitions of Risk 1. Risk as Sensation Seeking. 2. Risk in a Living Environment. 3. Risk as Antecedents and Markers. 4. Risk as Certainty (If you are in jail, you are certainly at – risk.)(Burt, Resnick et al. 1998).