

A Generic Model of Common Sense Applicable to Problem Solving or Product Development – Ideas as Precursors to Actions

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Abstract

In this paper we argue that common sense, documented in reflective proverbs and sayings, gives useful qualitative tools for problem solving or product development processes. The proverbs are chosen in a process analogous to the way a knowledgeable carpenter is choosing appropriate tools in his “problem solving” enterprise. Underlying the choices is the presumption of the wisdom extracted from the work of Jean-Paul Sartre and Martin Buber in five basic assumptions presented in the paper.

Keywords: Proverbs, problem solving, product development

1 Introduction

The simple and general idea presented in this paper is that all human endeavours, e.g. problem solving or product development, are driven by an interplay between ideas and actions. To start a resource-demanding endeavour you must have an idea of what to get out of it – you must have a goal or a purpose for your actions. This is the precursor to what will happen in practise in your attempts to reach the goals namely trials – and now and then mistakes! This paper will show that common sense knowledge documented from human history in proverbs and sayings are applicable ideas for implementing practical tools in a strategy to reach goals in general and in particular goals applied to product development processes.

2 Theory and basic assumptions

The notion of being an animal which has a mind is characteristic to human beings. Human beings have the ability to reflect upon strategies, ways of reaching goals and thereby the freedom of choice. This freedom, albeit confined to situational constraints, for choosing among alternative ways to reach a goal is comprehensively advocated by the philosopher Jean-Paul Sartre (Sartre, 2002, 1946; Börjeson, 2001; Lübeck, 1991; Østerberg, 1995) and his followers in the philosophy of existentialism. We may imagine alternative future scenarios from our standpoint in the present situation. We have a choice!

A1: Thus the first basic assumption for our discussion is that we have a choice.

The way we choose depends on what we think is best, from some point of view, and what is possible to accomplish depending on available resources – in essence people, tools and time. An important notion is that we do not comprehend, for obvious reasons (our senses, as well as our ability to process signals in our consciousness are limited), all the inherent complexity of hidden circumstances and possibilities characterising the situation we are facing.

A2: Thus the appreciation of hidden possibilities in the present unique situation and the nearby future is the second basic assumption to bear in mind when we seek solutions to problems – especially looking for innovative solutions!

Another aspect of human endeavours is that I interact with other human beings as well as with everything else in my world. Buber (Buber, 2002) has put explicit emphasis on those relations by forming the dyads I-You and I-It respectively. You interact with me in a way I cannot foresee and it is You who actively may determine “the force of that interaction”! As a human being I am acted upon by an active force or agent –You – whenever we recognize each other. The relation I-You in every meeting between people starts an interaction the result of which we cannot foresee in every detail. Likewise I interact with everything else in my world which according to Buber is an I-It relation which is a more passive interaction, where I actively can influence how much information or knowledge I may extract. The I-It-relation is a relation between I and an object and Buber makes us aware of the fact that we may treat our fellow human beings as objects too! Thus our relation to a fellow human being can be both an I-You-relation and an I-It-relation!

A3: Thus awareness of the significance of our interaction with other human beings and the world around us is the third basic assumption for this discussion.

A4: The fourth assumption is the possibility that a relation to another human being can be either I-You, where I and You interact as human beings, or I-It, where You are an object to me. According to Buber it is You, as an active agent, who invites me to a relation I-You.

How do we act consciously? The basic assumption in this paper is that we can act consciously when we have embraced the situation at hand with intelligible thoughts occupied by words, symbols, sentences, assertions and conclusions following accepted rules of inference in our minds. Thus ideas, intelligible thoughts, of reachable goals and strategies, which we believe may lead to the goals are the precursors of the practical actions we pursue. When we do not consciously “think about” why we are performing certain actions we imitate what we already have learned or are ordered to do. Many actions in our daily life are pursued just out of habit, what we are used to do in similar situations, whether they are actions of unconsciously competent experts or by “followers” of learned behaviour from role models, masters or “leaders”. The quality and inherent diversity of possible actions opens up for the conscious mind, whereas the unconscious mind probably acts like a machine according to learned habits or pre-programmed behaviour or forced by external agents. In both cases the outcome may be unpredicted results, but the conscious mind will probably be much more able to reach the perceived goal. The living creature versus a robot. If we can foresee the coming sequence of actions a robot (optimized!) will probably do the better job. But if we have to adapt to unforeseen actions and circumstances the human being will, we believe, be more successful (after all we have programmed the robots in the first place).

A5: Thus the fifth basic assumption in this paper is that ideas, conscious thoughts, are the precursors to conscious actions – the result of reflections of why we are acting as we do.

What is the general message of these assumptions? It is that every situation along the arrow of time is unique, experienced by people and in circumstances interacting in a way we cannot foresee in detail. As is said “The truth is in the detail”, so details are important – they make the difference. People’s conscious actions are guided by ideas, ideas of a problem, ideas about possible solutions, about potential tools to use, ideas of how to use a tool, ideas about other persons etcetera. And in every situation we have a choice, although not every choice is possible to realize at all times or at all. The message is also the importance of the interpersonal dialog – a dialog which in fact defines our view of the world, including our view of the current problem situation. These are all basic general assumptions applicable to all

human enterprise. Thus, they are underlying a wise problem solving procedure, as they are basic to the thoughts and the arguments in this paper.

3 A generic problem story

Let us imagine the following generic problem: A problem is posed to a group of people. A solution to the problem is the goal. We have restricted resources of people, tools and time. We are confined to pass certain gates (gates represent major decision points and are used in numerous models for product development processes by scholars and by companies in their practical work) on our journey to a solution. Let these gates; for the sake of argument be defined by the following questions:

- G1: Show us the problem solving team.
- G2: Show us a strategy for the problem solving
- G3: Show us the tools you are intending to use
- G4: Show us plausible solutions
- G5: Show us a solution to the problem

Intelligible answers to a gate question are accepted passwords letting us pass to the next gate. The gate guards will examine the passwords with regard to their general wisdom – assembled through years of experience – in problem solving or product development. Of course a generic problem solving strategy only shows plausible ways to act. Explicit results are found using explicit problems and an actual problem solving process. The purpose of this paper is only to show the applicability of common sense ideas to the creation of practical tools for whatever problem. Now, let us look into the library of human proverbs and sayings to find reasonable passwords to pass the gates of our imagined generic problem. The reference for proverbs used is Martinsson (Martinsson, 1996).

3.1 Diggings from the library of human proverbs and sayings

The procedure pursued will be to show examples of proverbs that may be used as qualitative guides on our journey to solving a problem. Here, proverbs are used in an analogous way much as tools are employed by, for example, a competent carpenter. The gate guards comment on our answers and decide whether we may pass the gate or not.

3.1.1 G1: Show us the problem solving team

How should we choose a problem solving team? *Friends may meet, but mountains never greet* so certainly the team should be able to meet – as team friends. Of course *Every man has his faults* but *Evil communications corrupt good manners* and threaten to disintegrate good team work. In general team members should be wise because *A wise man esteems every place to be his own country* and, of course, *Union is strength* and *Good company on the road is the shortest cut* or otherwise *A house divided against itself cannot stand*. Diversity in the team opens up more opportunities. Thus, *It takes all sorts to make a world* and, of course, *He who has an art has everywhere a part* and *The workman is known by his work*. It is important to be aware of the fact that *Empty vessels (barrels) make the most noise (sound)* and *One rotten apple can spoil the whole barrel*, but also that hearsay may be a bad adviser, so *First try and then trust*. Generally we know that *Where there is a will there is a way* so *A living dog is better than a dead lion*. Also important to know is that *He gives twice who gives quickly* and *Wisdom is an age* – a mixture of ages is preferred. In general **willingness** – *Hunger is the teacher of the arts* or *It is easy to do what one's own self wills*, **curiosity** – *He that nothing questions, nothing learns*, **courage** – *He that fears leaves let him not go into the wood* or *He*

that will conquer must fight and **persistence** – *He that can stay, obtains* are important qualities of the team members chosen. **Gate guards' comments:** Your arguments are compelling. We find no reason to stop your efforts at this first gate. Please proceed to the next gate.

3.1.2 G2: Show us a strategy for the problem solving

It is important to try to establish milestones and deadlines because our time is limited and *One of these days is none of these days* and, of course, *Time and tide wait for no man*. But because *The unexpected always happens* it is important to show due respect to unforeseen problems. Also as *One hour today is worth two tomorrow* and *Time is money* and *The early bird catches the worm* we have to make the project duration as brief as possible. In planning for activities we must remember that *A chain is no stronger than its weakest link*; *Good works take long in doing*; *Seek mickle and get something. Seek little, and get nothing*; *Opportunity seldom knocks twice*; *You must not put all your eggs in one basket*; *You must sow ere you reap*; *You never know what you can do till you try* but also that *Circumstances alter cases* and *The tide must be taken when it comes*. In planning for individual work we have to consider that *He who begins many things finishes but few* and *What is a workman without his tools* so we have to plan for the application of appropriate tools and divide the work between team members wisely. In planning for milestones, deadlines and the decision making we must be aware of the fact that *Procrastination is the thief of time* and, of course, *Time is money*.

Well, these arguments are rules of wisdom that will guide our time planning and strategy in our problem solving process. **Gate guards' comments:** Your arguments are still compelling. We find no reason to stop your efforts at this second gate. Please proceed to the next gate.

3.1.3 G3: Show us the tools you are intending to use

It is important in the problem definition (product specification) to realize that *Old habits die hard* and *Like question, like answer* as to open our eyes to new possibilities in the problem definition and problem understanding phase. We have to be aware of that *Where we least think, there goes the hare away* but *You can have too much of a good thing* and *Not every change is for the better* so *Let sleeping dogs lie*; *Things are not always what they seem* and *A full belly does not understand an empty one* so *Hear all parties* and remember that *He that nothing questions, nothing learns* and *He that will eat the kernel must crack the nut*. In coming up with plausible solutions (product concepts) we understand that *Abundance is welcome* but solutions must be chosen according to specifications so *When in Rome do as Romans do* although *Appearances are deceptive* we know that form (design) is important because *The coat makes the man* and *Everyone after his fashion*. In choosing solutions we know that *The afterthought is good for naught* and *Facts speak louder than words (opinions)* so *A good example is the best sermon* but *The best cart may overthrow* but *The anvil fears no blows* (are the solutions robust designs?) and *Seeing is believing* (the tools should help showing working solutions); *Good cheap is dear* (the tools should help finding cost effective solutions) and *Good wine praises itself* (quality of the solutions are self-marketing). In general, of course, *Honesty is the best policy* in applying our tools and examining the results.

Well, these arguments are rules of wisdom that will guide us in choosing appropriate tools in our problem solving process. **Gate guards' comments:** Your arguments are still compelling, discussing a generic problem solving process, so we find no reason to stop your efforts at this third gate. Please proceed to the next gate.

3.1.4 G4: Show us plausible solutions

When showing plausible solutions to a problem (or introducing concepts in a product development process), it is important to be aware of the fact that *Truth will come to light* sooner or later ... so *Gut no fish till you get them* and because *A chain is no stronger than its weakest link* you have to prove the ability of all links in your solutions. But in that process we must make sure that you *Do not kill the goose that lays golden eggs*. But your plausible solutions should be appropriate and wise *Do not cast your pearls before swine* and, of course, *The cowl does not make the monk*. But don't be too afraid as *Fortune favours the bold* and, of course, it is important to deliver in time because *First come, first served*. In general, *Do well and have well* and *A clear conscience fears no accusations*. In showing the strength of your plausible solutions to your employer, client or steering group you know that *Seeing is believing* (show the working solutions!) and *Afterwit is everybody's wit!*

Well, these arguments are rules of wisdom that will guide us in showing plausible solutions to our problem. **Gate guards' comments:** Your arguments are still compelling, discussing a generic problem solving process, so we find no reason to stop your efforts at this fourth gate. Please proceed to the final gate.

3.1.5 G5: Show us a solution to the problem

All rules of wisdom presented in the previous gate (G4) are, of course, appropriate but in demonstrating a solution to a problem (or embodied concept in a product development process) you must be absolutely aware that *All things come to an end; Want is the mother of industry; Better a small fish than an empty dish; Provision in season makes a rich house; Other times, other manners* and remember *Cheapest is dearest*.

Well, these arguments are rules of wisdom that will guide us in showing a solution to our problem. This gate also finishes our generic problem story. After the final comments from the gate guards, we will discuss the whole process and reflect on the results arrived at.

Gate guards' comments: Your arguments are still compelling, discussing a generic problem solving process, so we find that you have been able to pass also the fifth gate. Congratulations, you have proved, according to our wisdom and experience in problem solving, that the wisdom inherent in proverbs and sayings provide good general rules to follow in a wise problem solving process.

4 Discussion and conclusions

We have argued that generic principles or guidelines for problem solving are to be found in the well of reflective proverbs assembled from human experiences in a variety of human enterprises. These guidelines have, of course, no meaning – are useless – for humans without prior knowledge. Principles should be judged and applied as relevant to the problem situation at hand. There are, of course, contradicting proverbs. But that does not reduce the value of the proverb tools, because different circumstances may demand different tools. Because the hammer (but not the saw) is an inappropriate tool for a carpenter to cut a piece of wood doesn't make it (but the saw) useless for assembling wood pieces with nails. Because water is essential for the human body doesn't mean that drinking water always is the right "tool" – it may kill you. Looking at guiding principles from the knowledge domain of product development you might find conclusive (from empirical findings) propositions like: "1. New Product Success is highly situational. 2. No one factor can be clearly defined for New Product Success." (Owens & Cooper, 2001). You don't need much understanding of the complexity of product development and volatile markets to agree with those generic statements. And analogous proverbs "confirm" the common sense nature of such statements. E.g. for

conclusion #1: *Circumstances alter cases; There is nothing permanent except change; The unexpected always happens; No pains, no gains; Nothing is certain but the unforeseen; What may be done at any time is done at no time; Time will tell; In doing we learn; If at first you don't succeed, try, try, try again; He that would have the fruit must climb the tree; Failure teaches success!* E.g. for conclusion #2: *You must not put all your eggs in one basket; Half the truth is often a great lie; All good things go in threes; All roads lead to Rome!* As a matter of fact many scientific papers on product development are sprinkled with conclusive guidelines of the “common sense” type easily found in proverbs. What might that infer? A plausible hypothesis (which is the idea behind this paper) is that human enterprises like problem solving or product development infer similar types of “common sense” guidelines, which already have been collected in reflective proverbs from the history of human experiences. And, common sense, documented in proverbs and sayings, consists of wise thoughts often born out of hard individual experiences, which adult human beings easily can adhere to and appreciate. Those tools are at our disposal for adult human beings, if we are conscious of the generic structure of the problem situation we are facing – if, indeed, we **Can see the wood for the trees!**

But deep simple truths are seldom self-evident in practice. They seem to be buried so deep in our behaviour as human beings, that we are not consciously aware of them. That's an example of the important difference between passive and active knowledge.

In this paper Jean-Paul Sartre, Martin Buber and the reflective thoughts collected in proverbs are messengers of such deep simple truths, which when they are made active in our minds may make an important difference in the quality of our human behaviour. This consciousness may give extra quality to all our endeavours in general and to problem solving or product development in particular. We have argued that common sense, documented in reflective proverbs and sayings, with the underlying presumption of the wisdom extracted from the work of Jean-Paul Sartre and Martin Buber in our five basic assumptions, give us useful qualitative tools for problem solving or product development processes.

As a consequence the discussion and the conclusions in this paper are very simple and straight-forward. Or as a proverb tells us: *There's no disputing a proverb, a fool, and the truth.*

References

- BUBER M. (2001) (in Swedish) *Jag och Du*, Dualis Förlag AB, Ludvika.
- BÖRJESON B. (2001) (in Swedish) *Se människan - tio föreläsningar om Jean-Paul Sartres bok Varat och Intet*, Prisma.
- LÜBCKE P. (Ed.) (1991) (in Swedish) *Vår tids filosofi – del 1, Sartre: Frihet och situation, pp.311-324*, Bokförlaget Forum AB, Stockholm.
- MARTINSSON Y. (Ed.) (1996) (in Swedish with proverbs in five languages) *Ordspråksboken - 1800 ordspråk på svenska, engelska, tyska, franska och spanska*, Norstedts.
- OWENS J., COOPER R. (2001) “The Importance of a Structured New Product Development (NPD) Process: A Methodology”, The Institution of Electrical Engineers, Printed and published by the IEE, Savoy Place, London.
- SARTRE J-P. (2002, 1st ed. 1946) (in Swedish) *Existentialismen är en humanism*, Albert Bonniers Förlag, Delfinserien.
- ØSTERBERG D. (1995) (in Swedish) *Jean-Paul Sartre – Filosofi, konst, politik, privatliv*, Bokförlaget Korpen, Göteborg.



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