

# IMPACT

INNOVATIVE MANAGEMENT PRACTICES  
AND CREATIVE THINKING

A JOURNAL FOR MANAGEMENT PEOPLE



# TEAM

# MANAGEMENT

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With Greetings from IMPACT  
Greetings from the Editorial team of IMPACT to all our esteemed subscribers and readers. Our readers by now would have observed from the past 15 issues that IMPACT has no political leaning. But we are very keen observers of what is happening in and around us.

After a couple of years, the Central Government has increased its ministerial team strength to 79 justified by one of the Ministers that it is within 15% of the total number of MPs. As is the practice, some promoted, some dropped, some portfolio changes and so on. A Minister had to rush back from foreign tour, some had to cancel the forthcoming planned tours etc.! Some deemed demotions! Conceding it is the prerogative of the Prime minister to reconstitute his ministry, the people have a right to expect that the changes need not be on and for political reasons but must be in the larger interest of the MANAGEMENT of the governance that will improve the welfare of the common people. We do hope Indian democracy will be better MANAGED in the true spirit of the great Indian Constitution "given to ourselves" on our attaining freedom. We wish the reconstituted ministry every success.

At the international level, sensational development is that Britain deciding to part away from the European Union. As the entire world has become a global village, anything that happens in any part of the world, will have its own impact in some corner of the globe or the other! In that way this development will have its own repercussions and many countries including India are preparing to meet the fall out.

As one of the leading personalities opined, "The politicians who will lead the UK out of the EU must guard against allowing a yawning gap to emerge between their political rhetoric and the realities facing Britain outside".

The world is keenly watching the future in different fields where the repercussion will be felt.

- Editorial Team

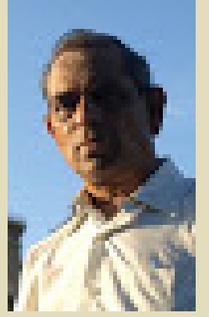
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# MANAGEMENT IN VALLUVAM

## CONTROL OF ANGER - வெகுளாமை

A bilingual poet, writer, trainer, translator, thinker and speaker from Chennai, Mr Subbaraman has written 36 books. His paper, "Valluvam Inspired Mahatma Gandhi," was approved for presentation in the International Tirukkural Conference held in Washington, USA. His translated works include Thirukkural, Bharathiyar's Kuyilpattu and Ramana Maharishi's Aksharamanamalai. He is connected with the publication of the Management e-journal IMPACT. He was formerly the Deputy Zonal Manager, L I C of India.



We have been analyzing the management concepts and principles enunciated in the Tamil 'magnum opus' Thirukkural by the great Saint Poet Thiruvalluvar of Tamilnadu right from the launch of IMPACT. We have a long way to go to site the end! This issue we are going to see the pitfalls in being 'angry'. Angry and current good management principles are poles apart; a Manager cannot afford to display anger in dealing with the 'people'. Let us now look at the 31st chapter that deals with 'ANGER'.

### Chapter 31 - அதிகாரம் 31

செல்லிடத்துக் காப்பான் சினங்காப்பான் அல்லிடத்துக்

காக்கின்என் காவாக்கால் என் (குறள் 301)

Sel idaththuk kaappaan sinam kaappaan;  
allidaththuk

Kaakkin en kaavaakkaal en?

Wrath against the strong

One should shun; if it warrants

Against the weak wrong! (Kural 301)

Where one's anger can work with the strong, he must control; where is the need for controlling wrath against the weak?

செல்லா இடத்துச் சினந்தீது செல்லிடத்தும்

இல்அதனின் தீய பிற (குறள் 302)

Sellaa idaththuch sinam theedhu  
sellidaththum

Iladhanin theeya pira.

Wrath against the strong

Brings woes; against the weak too

Wrath should be shunned strong! (Kural 302)

Wrath against the strong brings sufferings; there is no meaning in inviting troubles; there is no meaning in showing anger against the weak and hence must be avoided.

மறத்தல் வெகுளியை யார்மாட்டும் தீய

பிறத்தல் அதனான் வரும் (குறள் 303)

Maraththal vekuLiyai yaarmaattum; theeya  
Piraththal adhanaan varum.

Guard well against wrath

Towards everyone around

Brings woes in its path! (Kural 303)

Sufferings come only because of anger; to avoid woes, better not to be angry with anyone.

நகையும் உவகையும் கொல்லும் சினத்தின்  
பகையும் உள்வோ பிற (குறள் 304)  
Nagaiyum uvagaiyum kollum sinaththin  
Pagaiyum uLavao pira?

Wrath kills joy and smile  
No foe worse than killing wrath  
Brings all woes in file! (KuraL 304)

There is no other enemy other than the wrath  
that kills joy and happiness to others.

தன்னைத்தான் காக்கின் சினங்காக்க காவாக்கால்  
தன்னையே கொல்லுஞ் சினம் (குறள் 305)  
Thannaitthaan kaakkin sinam kaakka;  
kaavaakkaal  
Thannaiyae kollum sinam.

Guard thyself from wrath  
If you are to guard thyself  
Lest anger kills neat! (KuraL 305)

If one has to guard himself, he has to guard  
himself from his own anger; otherwise that  
very anger will kill him.

சினமென்னும் சேர்ந்தாரைக் கொல்லி இனமென்னும்  
ஏமப் புணையைச் சுடும் (குறள் 306)  
Sinam ennum saerndhaaraik kolli inam ennum  
Aemap puNaiyaich chudum

Wrath – the killer friend  
Destroys all the kith and kin  
Try all means to mend! (KuraL 306)

Wrath, the fire, destroys not only the individual  
but also his kith and kin

சினத்தைப் பொருளென்று கொண்டவன் கேடு  
நிலத்தறைந்தான் கைபிழையா தற்று (குறள் 307)

Sinaththaip poruLenru koNdavan kaedu  
Nilaththaraindhaan kaipizaiyaa thatru.

Wrath infected falls  
Bound to face woes; gets injured  
The hands that strikes the wall! (KuraL 307)

Just as the one who dashes his hands against  
the ground gets injured, the one who is  
wrathful is bound to suffer.

இணர்ளி தோய்வன்ன இன்னா செயினும்  
புணரின் வெகுளாமை நன்று (குறள் 308)  
INameri thoayvuanna innaa seyinum  
PuNarin veggulaamai nanru.

Save thyself from ire  
Against even the one who  
Tortured thee like fire! (KuraL 308)

Even if one tortures us with fire, better we do  
not show our anger against him.

உள்ளிய தெல்லாம் உடனெய்தும் உள்ளத்தால்  
உள்ளான் வெகுளி எனின் (குறள் 309)  
ULLiyadhu ellaam udaneydhum uLLaththaal  
ULLaan veguli enin.

Get all they desire  
When free from the ills of wrath  
Others they inspire! (KuraL 309)

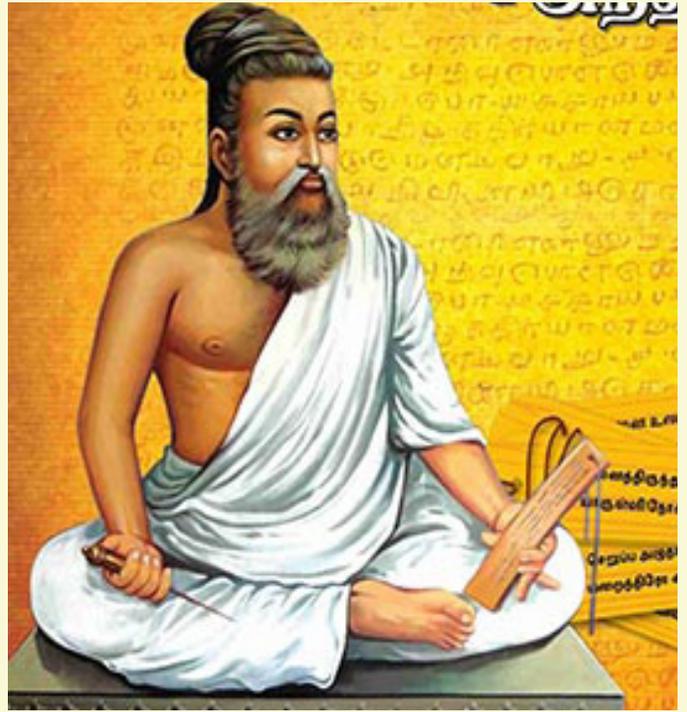
If one keeps himself from the scourge of  
wrath, will achieve whatever he desires.

இறந்தார் இறந்தார் அனையர் சினத்தைத்  
துறந்தார் துறந்தார் துணை (குறள் 310)  
Irandhaar irandhaar anaiyar sinaththaith  
Thurandhaar thurandhaar thuNai.

Uncontrolled anger  
Makes the living dead; freed  
Suffer no longer! (Kural 310)

Those who have uncontrolled anger are like the dead; those who are free from wrath are like saints who have no sufferings.

These dictums need no explanation and it is in the good interest of the Manager and the managed to follow with great dividends.



## REVIEW ON IMPACT June 2016 ISSUE

I went through the June copy of the IMPACT.

Thank you very much for publishing my book summary of the Book - Robin Sharma's Secret Letters - let me hope that your readers find it useful.

Mr P Karthikeyan has elaborated on the Work-Life Balance by quoting a real moving incident.

Mr Zende has ably continued his treatise on the usefulness of Suggestions' Scheme.

Dr Gowri Ramachandran has beautifully dealt with the subject Emotional Intelligence and Emotional Quotient.

My hearty congrats to all these contributors.

As an Insurance man, I very much relished the piece on insurance companies, especially their taglines. Very informative. On the whole, another interesting issue to be read and enjoyed thoroughly by one and all.

With regards  
R Venugopal.

# TEAM MANAGEMENT



M V Kaushik is Senior Quality Analyst in a multinational firm, and a former journalist

**T**eam management is one of the greatest arts of management. I can vouch from my experience that team management is a difficult art to practise. I have not held the top post of a manager in my long career (and I do not wish to), although I have held different positions of responsibility and performed different roles. But, I have watched from close quarters how managers manage a team in a publishing house and how a group or batch leader manages his team in the newspaper industry. Holding one position below that of the leader and watching him carry out his duties is a selfish and rewarding experience by itself and I seem to enjoy this role. Passing on the responsibility to someone who can lead a team is an easier task than managing a team oneself. Watchers from behind the scenes may enjoy the fun of how a manager

performs his duties, but how tough a task it is for the person who actually manages a team.

Before sharing some of my work experiences, I would first like to underscore the roles of a team leader. A leader of a team comes across various types of people. Each person is different from the other in various ways. Just like the five fingers of the hand are different from one another, each human being is different from the other in many different ways. Each is endowed with special talents and gifts that the other may not possess. Each is endowed with special and unique characteristics that are different from the other. A team leader must take into account all these factors and guide his team accordingly. Only then will he be able to bring out the best from his team members.

## **Patience**

The first and foremost quality that a team leader should

possess is patience. Infinite patience on the part of a leader will do wonders for him and for the team that he leads. Patience alone will help a leader to understand the minds of those under him and evolve strategies that can be suitably applied to different members of the team. People coming to work will come from different backgrounds. Personal upbringing and background play a major role in shaping the behaviours of people at work. If a person is always temperamental and moody, then it is a reflection that something is radically wrong with him and perhaps something is not right at home. If a person is always cheerful, then it will have a positive impact at work and it may be an indication that at the personal level, things are right. Team members will be bringing with them a lot of their personal problems and it is up to the team leader to counsel his members properly so that official work does not get affected. If one team member throws up a lot

of tantrums, then it will have a negative impact on the whole team. The reasons for the tantrums will be many and it is here that the team leader should step in and offer the best counselling. Counselling is a fine art. Counselling must be done in such a way that a person is not deeply wounded on a personal level. The team leader as a counsellor should not probe the personal life of a person in detail and indulge in vapid moralising. Rather, he should understand the psychology of a person and offer appropriate guidance. Only then will a team member be able to achieve a proper work-life balance.

### **Do not expect the impossible**

A team leader must not expect the impossible from his team. He must be firmly grounded to reality. He must first make efforts to understand the capability of each person under him so that he can allot tasks that are most suitable for a person. Not everybody can do everything and a leader must understand this first before assigning specific tasks to his team members. If one person's knowledge in a particular area is not adequate, then he will be easily frowned

upon by the other members of the team. This will cause immense psychological harm to that person and also cause an inferiority complex within him. If such a complex develops, it will be very difficult for one to get rid of it. The team leader must step in and discourage such negative tendencies in his team and take the frowners to task and assuage the feelings of the person who is being frowned upon. Then, the leader should spend quality time with the person who is inadequate in a particular area and pay special attention to him. He must take steps to train him in the areas in which he is weak. It will also be a good psychological step if the leader orders those who frowned upon this person to impart the training themselves. Many teams have collapsed because of the team leaders' refusal to understand the weak spots of team members and to provide adequate training to cover the areas of inadequacies.

### **Humility**



Another important attitude that a team leader should develop is humility. Arrogance and haughtiness on the part of a leader will get his team nowhere. Many teams have collapsed due to the arrogance of leaders. If such negative traits percolate to the team, then the results will be disastrous for all, including for the organisation as a whole. A leader should have the humility to get corrected by his subordinates if he commits a mistake or if he goes wrong at some point. Only then will he and his team grow and achieve greatness. On the contrary, if a leader thinks he is the be-all and end-all of all knowledge and cultivates an attitude that he cannot go wrong at all and is virtually incapable of committing any mistakes, then this arrogance will have a deleterious effect on the team and the captain will sink along with his crew.

### **Listening**



The leader must carry

everyone along with him. The leader must have the capacity to listen to all points of view. People will come up with different ideas for solving a particular problem. The leader must have the magnanimity to accept different points of view and if he disagrees with a particular point of view or opinion, he must not show his disapproval or disagreement openly. He must absorb and assimilate the different opinions offered to him, weigh each opinion against the other, and arrive at the best possible solution. The leader must not thrust or force his ideas on his team. Even if he is convinced that only his solution is good enough to solve a knotty issue, he must bring around his team to his point of view in an indirect way and give out convincing reasons on why his opinion matters. He must not do this in an open way, because this will only amount to thrusting his solution on others, thus leading to incurring the displeasure of all.

### Accessibility

The leader must be accessible to all. He should not create a barrier between him and his team. If this happens, the team's growth will

suffer. This is not good team management. Artificial walls of distrust and suspicion must not be created. All barriers must be broken and only then will the team grow and achieve its highest potential.



### Sharing

The leader of a team must inculcate the quality of give and take among his members. In order to this, he himself must follow a give and take policy. He must also encourage the activity of sharing of ideas. Team members must share a lot of ideas among themselves. The leader must also share his ideas freely with his team. Even personal problems that have a negative impact on the work can be solved if team members share their



problems with one another. The larger aim is that work must go on smoothly and nothing should come in the way of smooth functioning.

### Trivialities

The leader must ensure that small issues that do not warrant any attention must not be blown out of proportion. I have seen this happening in many organisations. Often, trivial issues are blown out of proportion by people. Even leaders do this, not to speak of people below him. If this happens, the team will suffer to a great extent, and therefore, this must be avoided at all costs.

### Favouritism



Leaders must ensure that they do not favour anybody at the cost of others in his team. If favouritism is practised, it will ruin the entire team. Favouritism will lead to jealousy and send wrong

signals to others in the team. I have experienced favouritism a lot in my career. If somebody turns out to be a blue-eyed boy of the boss on account of one's performance and merit, the other team members may not mind. Others will perhaps strive to attain high standards of perfection in their work to catch the attention of the boss so that they too could become his favourite one day. This is a positive phenomenon. But if somebody in a team is favoured by the boss for reasons other than work, that is, for extraneous reasons, then it will cause heartburn in others. Bosses, managers and leaders should avoid this type of favouritism because this is not conducive to healthy management of a team.

### Unity



Another most important issue that every leader must strive for is unity. The leader must strain every nerve

and tissue to foster unity and cooperation among his team members. If members are divided, then the team's progress would be hampered to a great extent. Unity is the most powerful thread that keeps a team together. The leader and his team must realise the value of the dictum, "United we stand, divided we fall." If there is true unity, good cooperation, and excellent coordination within a team, great things can be achieved. But sadly, lack of unity is the bane of most organisations today. If a team is united and strong, then nothing will shake it. If a leader and his team are facing a serious common problem in their organisation, they can put forward their case strongly with the management if they are united among themselves. But if they are divided, the management will not pay any heed to them. Nobody will listen to them and their common problems will never get resolved and only multiply in the long run.

I find this lack of unity among team members in many newspaper organisations. I have been a part of two major newspaper organisations

and I have experienced this myself. Lack of cooperation and coordination among teams and groups is the order of the day. This affects the morale of people and demoralisation easily sets in, leading to resignations. I would like to give one simple example, although this is not related to my team's work. After work during late evening and night shifts, we newspaper employees were dropped at home by the office cab. Each employee's house was located in different parts of the city. The management had laid out the policy that we should be dropped by turns. This was done to avoid unnecessary misgivings among us. So, we were divided into North and South directions, that is, the closest directions where our houses were located. The management had directed the cab drivers to enforce this rule of dropping us by turns. But I found that most of my colleagues did not adhere to this simple stipulation and only showed one-upmanship. They would insist that they should be dropped first every time. What was most surprising and disappointing was this was practised by team leaders themselves!

Those who were supposed to lead their teams and be role models were themselves indulging in such petty politics. What kind of a negative impact it had on some of us. The net result was a trail of bitterness was left behind. So, team leaders should do well to set good examples to their team by taking the lead in fostering a sense of unity among their members instead of playing politics. The purpose of team management will be defeated by such actions on the part of the leaders themselves.

I would like to recollect my experience with my team members when I was associated with a major newspaper in Bangalore. I was moved to the web edition of the paper from the main desk. I was asked to 'manage' a lady because nobody succeeded in doing so. This lady was a tough person to deal with. No amount of patience would help. Finally, I had to resort to offensive language. But nothing would work because she was the management's favourite. If a person is in such an enviable position, no management skill would be

of any use. Ultimately, that person's writ will prevail. My team leaders also failed to manage her. Her clout enabled her to successfully drive out people from the internet desk!

My present experience in the publishing industry is somewhat different from that of the newspaper industry. I found my previous manager to be a nice and understanding person. Such behaviour was refreshingly different from the behaviours of people in the cut-throat world of journalism. My manager was kind to me and she believed in bringing the best out of me. She would also see that we members knit together as a team and gelled well as a unit. She monitored my performance constantly and ensured that I got all the accolades that I deserved. Because of her persistent efforts, I bagged the "Employee of the Year" award in the year 2013. The year before, I was one of the three persons nominated for this award. This was entirely due to the efforts of my manager. Although, politicking on the part of one person ensured that I lost the award by one vote

(one against many votes), I did not feel a sense of pain because my manager was solidly behind me. This is the hallmark of a good manager. Later on, after moving closely with my manager and my team members, I realised that my manager had one weakness, and this was favouritism. She favoured one person at the cost of others. This caused negative feelings in me and the others. An ideal manager no longer she was. The lesson that managers should learn from this is they should maintain their ideal leadership qualities at all times and at no point of time should they succumb to weaknesses. This is a test of character as well as that of leadership.

To sum up, team management is one of the most important components of management. Good team management will help build great teams and great teams can accomplish great things. For such teams, sky is the limit.



# HEALTH MANAGEMENT



Lion M. DESIKAN is a former District Chairman and Life Member, Lions Club International, District 324A. He is a social activist and literary lover.

## ATTACK ON THE BRAIN

### Stroke

Stroke risk is higher in people who have High Blood Pressure, Heart Disease, Diabetes and high cholesterol.

Other risks include heavy alcohol consumption, smoking, illicit drug use and genetic or congenital conditions. Some risk factors apply only to women, primarily, childbirth and menopause.

Not everyone gets at the following warning signs.

Sometimes these signs go away and return.

Treatments are most effective if given within an hour of the beginning of the attack.

### The warning symptoms are:

Sudden numbness or weakness of face, arm, or leg, especially on the one side of the body.

of speaking or understanding speech.

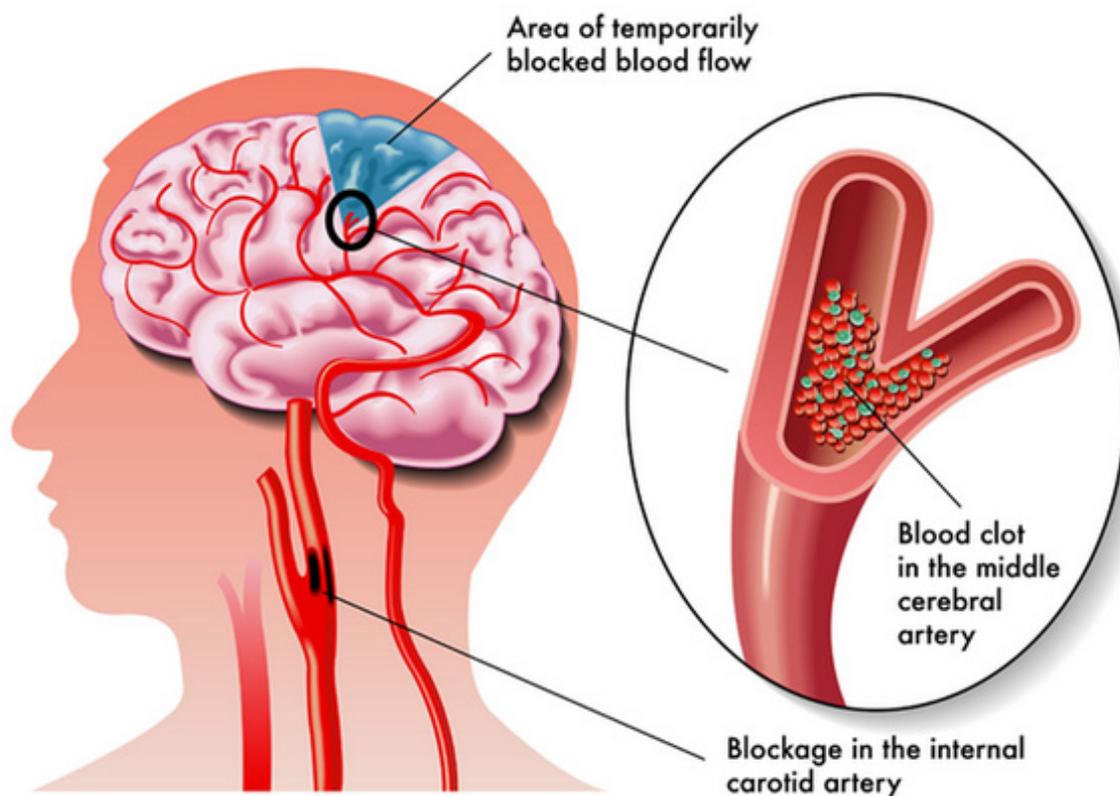
Sudden trouble of walking, dizziness, or loss of balance or coordination.

Sudden severe headache with no known cause.

Blurred or double vision, drowsiness, and nausea or vomiting.

Generally there are three treatment stages for stroke.

Sudden confusion or trouble Prevention therapy



immediately and after stroke and post-stroke rehabilitation.

The best ways to prevent a stroke are:

Eat healthy diet, low in saturated fat and rich in fruits, vegetables, and whole grains.

**DO NOT OVER EAT.** And keep your weight under control.

Get regular exercise (30 minutes day) most days of the week, or more.

Find ways to manage stress in life.

If you have high blood pressure take medicine on doctor's advice.

If your cholesterol level is too high, talk to doctor about ways to lower.

### **STOP SMOKING**

If you have ear disease or diabetes take good care of yourself.

See your doctor and take your medicine as prescribed.

Aspirin therapy may be useful but check with your doctor before starting to take

Aspirin on daily basis.

A person who has a stroke may suffer little or no brain damage and disability.

**BUT IT CAN LEAD TO SEVERE BRAIN DAMAGE AND DISABILITY OR EVEN DEATH.**

The type of disability depends on the extent of brain damage and what part of the brain is damaged.

Stroke may cause paralysis or weakness of one side of the body and memory problems.

Mood change, trouble in speaking or understanding speech, problems while eating or swallowing and Pain and depression.

Rehabilitation and medical treatment can help recover from the effects of stroke and prevent another stroke from occurring.

### **GALL BLADDER STONES**

The gall bladder is located on the right side of the abdomen, just below the rib cage. It is part of the biliary system that drains bile from the liver, and the bile reservoir and concentrator.

Gallstones are usually formed of cholesterol, calcium, bilirubinate and calcium, carbonate.

A majority of gallstones are asymptomatic, which means the person does not have any symptom related to gall bladder disease. 60 to 80% of stones stay in the gall bladder without any symptom.

In symptomatic gallstone disease, there is pain in the right abdomen, which radiates to the back and to the right shoulder.

There could also be fullness of stomach and vomiting. Occasionally, the person might have Jaundice if the stone slips into the bile duct, blocking the bile flow from the liver to intestine.

Infection of the gall bladder because of the stones, called acute cholecystitis causes severe pain, along with fever. More stones forms could cause acute Pancreatitis.

### **SNORING -2**

In the last issue IMPACT JUNE 2016 I HAVE DISCUSSED



**CAUSES**

THROAT WEAKNESS. MISALIGNES JAW, OBISITY, ESPECIALLY FAT GATHERING IN AND AROUND THE THROAT.

OBSTRUCTION IN THE NASAL PASWAY.

**TONSILLITIS IN CHILDREN.**  
TREATMENT;

A DETAILED EVALUATION BY SLEEP THERAPY EXPERT can help in diagnosing problem.

Continuous positive airway pressure – CPAP.

In this, patient has to wear a pressurized Mask over the nose while sleeping. The mask is attached to a small pump that forces air through the airway to keep it open.

Lifestyle changes and weight therapy

**ABOUT SNORING.**

Why do we snore? The dangers, sleep APNEA – treatment for snoring;

**WHY DO WE SNORE**

It is a sound produced during sleep by the vibration of respiratory structures when the airways get obstructed because of irregular flow of air.

**WHAT IS SLEEP APNEA**

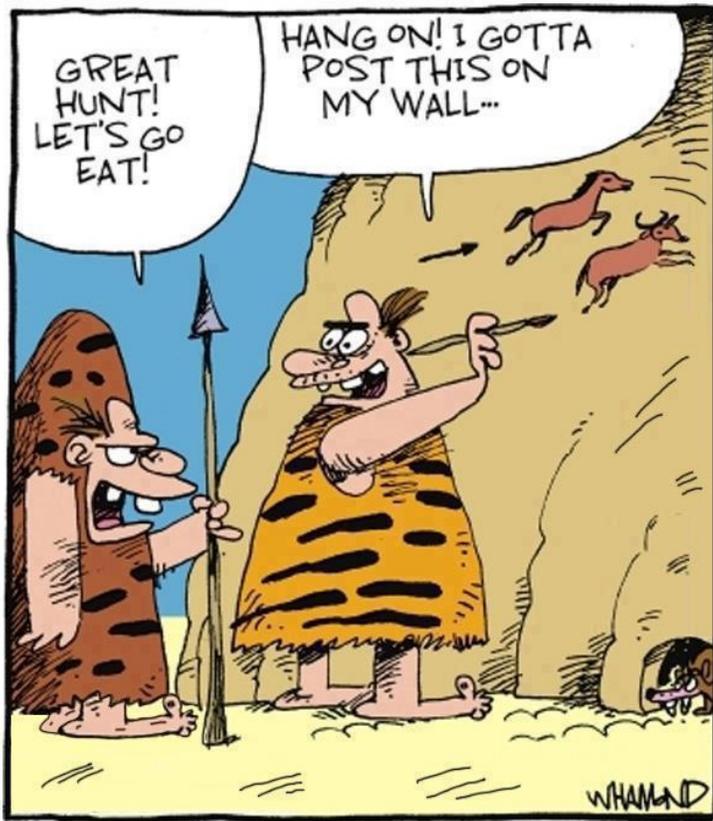
It is the complete stoppage of breathing while sleeping that results in fragmented sleep patterns.

It is abnormal if this lasts for more than 10 seconds. It may result in daytime sleeping without the patient even realizing it.

**DANGERS OF IT**

Snores, if ignored can lead to serious medical conditions. Due to snores, Oxygen supply to the body is affected. The body comes under extreme stress and undergoes metabolic changes. It may affect lining of the heart arteries and result in high BP, heart disease, diabetes and in extreme cases, strokes.





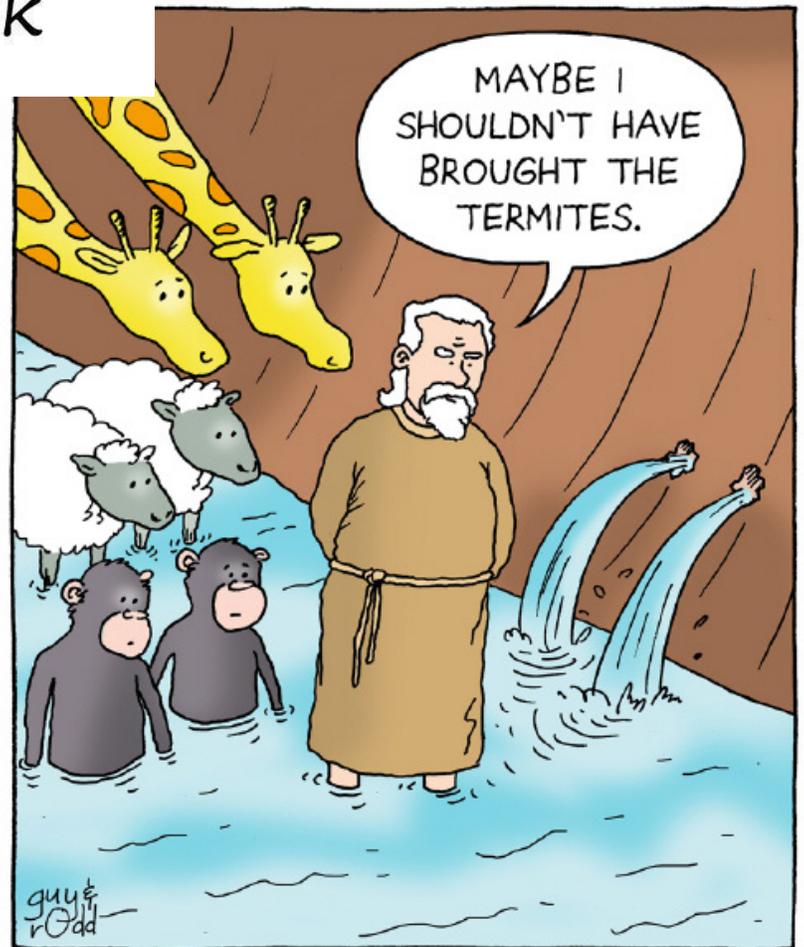
Marriage is a Workshop.....  
 where husband works  
 &  
 wife shops....

www.olalaa.

## Early Facebook

Who Said That English Is Easy. Fill This Blank With "YES" Or "NO".

1. \_\_\_\_\_ i dont have a brain.
2. \_\_\_\_\_ i dont have sense.
3. \_\_\_\_\_ i am stupid.



# RAB NE BANADI JODI

## (MATCHES ARE MADE IN HEAVEN)

Mr. Venugopal has served in LIC of India from 1968 to 2006 for 38 years and retired as an Executive Director. Then he served as the Professor of life insurance at the National Insurance Academy Pune for nearly 3 years. Now settled down at Bengaluru. He is a member of the Syllabus Committee for the MSc- Actuarial Science course at the Christ University as well as one of their guest faculty. He is one of the editorial consultants for the Insurance World magazine.



Recently I celebrated the 40th Anniversary of my married life. In India we always say, 'happily married'. I recall a joke when the wife asked her husband to take her to a new place which she has not visited all the years of the married life, the husband immediately replied, 'let us go to the kitchen'!

Another husband cheerfully mentioned "my wife is an angel", his friend sighed "I am not so lucky, my wife is still living". I remember one of my colleagues heartily laughing in my class at the National Insurance Academy and informing me during the tea-break "I am laughing so whole-heartedly after a period of 5 years". I asked him the reason. Pat came the response, 'I got married before 5 years'!

Well, this article is not about the married life of a person

but I only know what will happen if you forget your wedding day!

This article is on the destiny of a person - man or woman - as far as the wedding is concerned. Any number of alliances the parents would have seen through various websites now-a-days like the Bharat Matrimony, Tamil Matrimony etc, but ultimately who will marry whom, only God Decides. There are many instances where one groom rejects a girl but marries the same person after two years, both were waiting for each other! That way, they are "made for each other".

There is not a single woman who does not say at some time or the other of her married life, "I refused to heed to my parents when they brought such wonderful matches, I simply fell for your

pitch-dark, curly hair (which was a perfect wig), what I gained marrying you?" The same story goes for the man too. He is also taken by the youthful face of the girl at the time of marriage - many men often wonder whether they married the same girl whose photo was shown as it happened in the case of a Cricketer. We have to be careful all the more because the brides go for a "Bridal Make-up" before the marriage reception with the result even the parents cannot identify their daughters!

There is a proverb in Tamil which says that building a home and arranging the marriage of your daughter (it includes a son too now-a-days) are the two most difficult things in life. I realized it fully when I started looking for brides for my two sons. I selected

the photos, my wife selected the horoscopes (aptly called some times as horror scopes) but all rejected by the sons. What was the reason? Their only reply was "not my type". What does this mean; I have not understood till now, although both my sons are married!

Food also becomes one of the main components in fixing a marriage- what are dishes served while the bridegroom's family goes to the house of the would-be bride, how they are served etc., too decide and clinch the issue some times.

**There is this following saying:**

*Every man marries a woman thinking that she would never change.*

*Each woman marries a man thinking that he would change.*

But ultimately both are disappointed - the woman changes - the man wonders

"Is this the same person I so much loved and married?"

Similarly the man remains the



same - he never changes - the lady wonders "He remains the same Buddha, whom I thought I would marry and change"!

May be, the time has come for us not only to accept the title of the article - Marriages are made in Heaven - and allow the sons and daughters to choose their own soul-mates either by a love marriage or allowing the off-spring to make the final selection after an initial screening by the parents. It is wisely said,

*"If you want a daughter-in-law for your family, you choose the bride. If you want a wife for your son, let him choose the girl".*

This applies to the selection of a bridegroom too -

*"If you want a son-in-law for your family, you choose the groom. If you want a husband for your daughter, let her choose her soul-mate."*

After all, wedding is a social event remembered by all the people attending the same but Marriage is an Institution to be ceremoniously guarded only by the bride and the bridegroom. It is their responsibility only.

"I love being married - it is so great to find that one special person you want to annoy for the rest of your life", wrote some Wit.

## THINK WITHIN...THANK THE SUPREME



**Mrs. Sandhya Rao, Senior Innovation Consultant, Innomantra Consulting Private Limited.** Master's in Psychology from Punjab University, Graduation from Government College for Women, Chandigarh with Economics, Psychology and English (Honours), Schooling from Carmel Convent, Chandigarh.

I read the title of this article many times. It is not so difficult to understand the two linking phrases but I was piqued as to how to start writing on this seemingly easy title. Introspection means "to look inside," and describes the act of thinking about your own actions or inner thoughts. Nineteenth-century philosopher William Godwin once said, "The philosophy of the wisest man that ever existed is mainly derived from the act of introspection."

In psychology the process of introspection relies exclusively on observation of one's mental state, while in a spiritual context it may refer to the examination of one's soul. Let us just talk of the psychological aspect in this article. However, we cannot ignore the part of the soul completely. As we all know, the Mind, Body and the Soul are part and parcel of every human being.

After some research and introspection, I decided to refer to the teachings of Swami Vivekananda. "In you is all power. Summon up your all-powerful nature mighty one and this whole universe will lay at your feet. It is the self alone that predominates and not

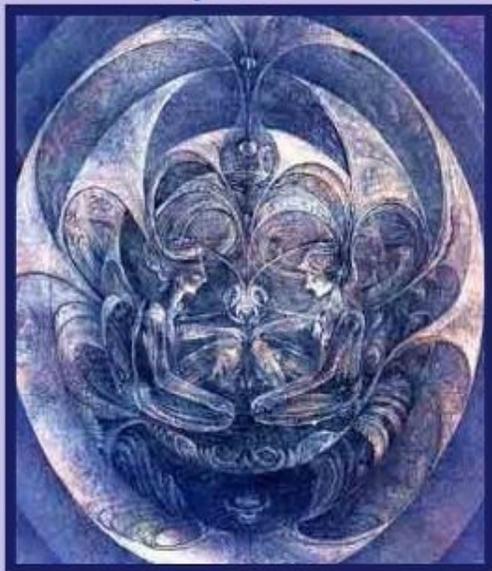
matter."

If we do not have we must learn how to build our self-confidence which will further help us to think well and think within. We can then observe our mental state and our soul. If we are happy and satisfied with the process of thinking within, we can proceed to thank the Supreme.

Vivekananda said that the qualities needed to be cultivated to build self-confidence are:-

- 1) Conviction...."Great convictions are the mothers of great deeds."
- 2) Hard Work...."To succeed, you must have tremendous perseverance, tremendous will."
- 3) Will-Power....."You must not say that you are weak. You know but little of that which is within you. For behind you is the ocean of infinite power and blessedness."
- 4) Self-respect..... The great poet Kalidasa was an illiterate and a dullard. Some pundits, who had been defeated in arguments by a highly intelligent princess Vidyottama, got her married to Kalidasa in a deceitful manner

## Law Of Karma ...



*Every action generates a force of energy that returns to us in like kind. What we sow is what we reap. And when we choose actions that bring happiness and success to others, the fruit of our karma is happiness and success ...*

out of jealousy. When the truth came out she felt greatly disturbed and admonished Kalidasa for his ignorance. His honour was at stake. He felt deeply hurt and humiliated. He took it as a challenge and decided to become a learned man. This feeling of self-respect ignited his confidence. He left home and returned only after he had become a man of profound learning.

5) Long preparation....."Pay as much attention

to means as to the end."

6) Communication....."It is only a few that understand the language of the brain, but everyone understands the language that comes from the heart."

7) Commitment...."Putli Bai, mother of Mohandas Gandhi wanted him to promise that he would never touch wine, meat and consequently associate with women during his stay in London for higher studies. Without a moment's hesitation, Mohandas agreed to her conditions. It was not an easy task for him. Many times temptations came, but his commitment to his mother saved him from all dangers and gave him tremendous confidence to overcome all difficulties in his path."

8) Discrimination...."Sometimes even the so-called learned scholars lose confidence when they fail to discriminate between the real and the unreal, the right and the wrong, vice and virtue due to lack of discrimination. Knowledge alone can make us free from all types of fears. Fear is the greatest enemy of man"

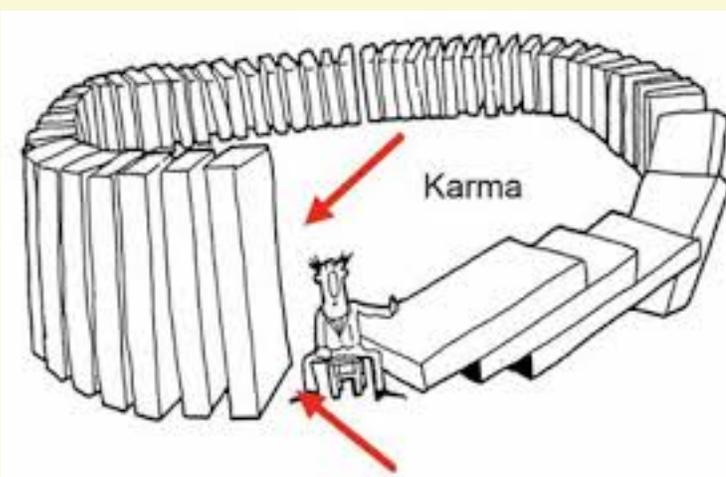
9) Definite Goal....".Many youngsters are not very clear about their goal in life. We cannot begin our journey unless we are clear about our destination. We cannot proceed even a step unless we decide where we want to go."

10) Love..... "Love opens the most impossible gates; love is the gate to all the secrets of the Universe. Every step that has been really gained in the world has been gained by love."

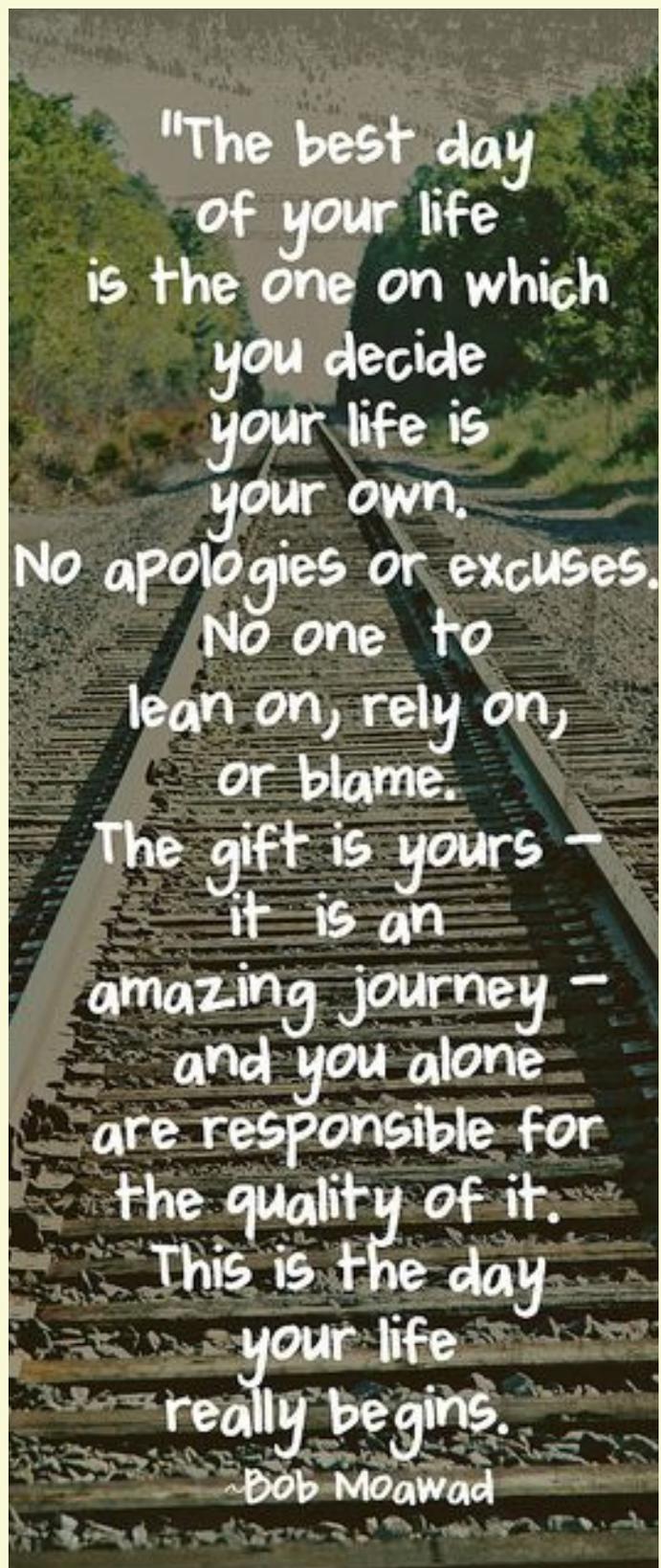
11) Concentration....."Concentration is the

essence of all knowledge; nothing can be done without it. Ninety percent of thought force is wasted by the ordinary human being, and therefore he is constantly committing blunders; the trained man or mind never makes a mistake." 12) Strength ..... "Vedanta only insists that the ideal is practical, but that it has been so all the time; and this ideal, this reality, is our own nature. Everything else that you see is false, untrue. As soon as you say, "I am a little mortal being," you are saying something which is not true, you are giving the lie to yourselves, you are hypnotizing yourselves into something vile and weak and wretched."

All the above qualities mentioned require a great amount of introspection before they become a part of us and what we are. All this exercise of building self-confidence is not a one-day affair. It is not an impossible task and to achieve it before and after we need the guidance and support of the Supreme. The Supreme Being is within us. So it is not so difficult to understand the concept of Think within and thank the Supreme.



The Supreme God is regarded as an entity that exists in and gives life to all things. So let us dwell within and thank the Supreme.



# IMPACT AND ITS IMPACT



Dr. K. Balasubramanian – Founder and CEO of Vision Unlimited. He is a PhD in Psychology and Post Graduate Diploma in Training and Development. His name has been appearing in the popular people of Tamil Nadu Directory for the past 25 years.

## IMPACT

In nature there are neither rewards nor punishments; there are consequences. Everything we do has a result. But that which is right and prudent does not always lead to good, nor the contrary to what is bad. Impact is nothing but the 'karma'. Every act has an impact. Every impact has its influence.

### Impact of Floods

Floods impact on both individuals and communities, and have social, economic, and environmental consequences. The consequences of floods, both negative and positive, vary greatly depending on the location and extent of flooding, and the vulnerability and value of the natural and constructed environments they affect.

### Impact of Education

Society and education are two inseparable elements in our world. It has always been in talks how education

influences the society. The things we are taught and what we learn through our schooling affects the kind of person we are and consequently influences the society as a whole.

### Impact of Money

Having more money means having more prestige and therefore more attention and esteem. But wealthy people often experience that this kind of esteem is not long lasting. It has to be earned each day anew – a never-ending fight for esteem. Chasing money for chasing esteem can make people forget that there are other important things in life such as taking care of the people around us. Taking care of relationships requires self-consciousness and a healthy self-esteem.

### Impact on women's economic development

Investing in women is recognized not only as the right thing to do but also the

smart thing to do. Mounting evidence demonstrates that increases in women's income lead to improvements in children's health. As female education rises, fertility, population growth, and infant and child mortality fall and family health improves.

### Impact of domestic violence

Children living with domestic violence suffer emotional and psychological trauma from the impact of living in a household that is dominated by tension and fear. These children will see their mother threatened, demeaned or physically or sexually assaulted. They will overhear conflict and violence and see the aftermath of the violence such as their mother's injuries and her traumatic response to the violence.

### Impact of unemployment

Unemployment affects not just the person himself but also his/her family and in the long run the society where he lives. Unemployment brings

with it despair, unhappiness and anguish. It forces people to live their lives in a way they do not wish to – The life expectancy is negatively affected.

### **Impact of corruption**

The effect of corruption has many dimensions related to political, economic, social and environmental effects. In political sphere, corruption impedes democracy and the rule of law. In a democratic system, public institutions and offices may lose their legitimacy when they misuse their power for private interest. Corruption may also result in negative consequences such as encoring cynicism and reducing interest of political participation, political instability, reducing political competition, reducing the transparency of political decision making, distorting political development and sustaining political activity based on patronage and money, etc.

### **Impact of inflation**

When prices rise for energy, food, commodities, and other goods and services, the entire economy is affected. Rising prices, known as inflation,

impact the cost of living, the cost of doing business, borrowing money, mortgages, corporate and government bond yields, and every other facet of the economy.

### **Impact of globalization**

Globalization conveys us that something new is happening to the world. Globalization leads to the interconnection between the countries of different culture, caste and heritage. The process leads to the updating of information among the people. Advancement in transportation, telecommunication systems, infrastructures are the major factors of globalization.

### **Impact of social media**

Like a coin has two sides, social networks also have both merits and demerits that completely depend on the person. We are living in a busy world and if we want to keep in touch with our friends

and relatives, social networks work as a media. By using social networks we can share our ideas and knowledge with the entire world and we can gain knowledge also. For start-up companies, movie promotions, and event promotions etc., social networks play a major role.

### **Impact of magazines**

Print media is still a strong medium for information and communication. It is one of the “indispensable” tools of society that helps every individual to communicate and correspond with each other. It is primarily used as a tool for getting news and information, advertising, marketing campaigns, entertainment, expression and criticism, art and talents, and other forms of human interaction. But aside from the benefits, it can still be a significant contributor of false and misleading information and data.



assessing real **impact**

# INSURANCE MANAGEMENT

As a part of IMPACT's initiatives to introduce Insurance Management through this journal, in the last issue we saw the Insurance Companies operating in India - life and general. This issue we shall just point out a number of terms and terminologies in vogue in General Insurance industry.

- |   |   |
|---|---|
| (1) Add on cover                        | (31) Fire Insurance.                                |
| (2) Agricultural Pump-set Insurance.    | (32) First Loss Insurance                           |
| (3) Arbitration                         | (33) Floater policy                                 |
| (4) Aviation Insurance                  | (34) General Insurance                              |
| (5) Bankers' Indemnity Insurance.       | (35) GIM rules                                      |
| (6) Blood stock Insurance               | (36) Group policy                                   |
| (7) Burglary Insurance.                 | (37) Honey insurance                                |
| (8) Business Interruption Insurance     | (38) Hoteliers' insurance                           |
| (9) Cancellation of policy              | (39) Householders' insurance                        |
| (10) Cattle Insurance                   | (40) Hut insurance                                  |
| (11) Certificate of Damage.             | (41) Indemnity                                      |
| (12) Claim                              | (42) Insurable interest                             |
| (13) Claim documents                    | (43) Insured  |
| (14) Claim form                         | (44) Insurer  |
| (15) Claim procedures                   | (45) Insurance company                              |
| (16) Compensation                       | (46) Insurance Regulatory and Development Authority |
| (17) Compulsory Insurance               | (47) Investigation                                  |
| (18) Construction Engineering Insurance | (48) Investigator                                   |
| (19) Contribution                       | (49) Investigation Report.                          |
| (20) Crop Insurance                     | (50) Liability Insurance                            |
| (21) Cumulative Bonus                   | (51) Janata Personal Accident Insurance             |
| (22) Deductable                         | (52) Jewellers' Block Insurance                     |
| (23) Delivery                           | (53) Machinery Breakdown Insurance                  |
| (24) Electronic Equipment Insurance     | (54) Marine Cargo Insurance                         |
| (25) Endorsement                        | (55) Marine Hull Insurance                          |
| (26) Employees' State Insurance         | (56) Market value                                   |
| (27) Employers' Liability Insurance     | (57) Mediclaim Insurance                            |
| (28) Excluded risks                     | (58) Money in transit insurance                     |
| (29) Executive Travel Insurance.        | (59) Motor insurance                                |
| (30) Fidelity Guarantee policy          | (60) No claim Discount                              |
|   | (61) No fault liability                             |
|   | (62) Official Shield / protection Insurance         |
|   | (63) Own damage                                     |
|   | (64) Peril  |
|   | (65) Period of Policy                               |

(66) Permanent Partial Disability  
(67) Permanent Total Disability.  
(68) Personal Accident Insurance  
(69) Pet dog Insurance  
(70) Policy

(71) Policy Renewal  
(72) Premium  
(73) Product Liability Insurance  
(74) Professional Indemnity Insurance.  
(75) Property Insurance

(76) Proposal Form  
(77) Public Liability Insurance  
(78) Proximate Cause.  
(79) Rating  
(80) Reinsurance

(81) Replacement value Insurance.  
(82) Risk  
(83) Satellite Insurance  
(84) Shop Keepers' Insurance  
(85) Sports Insurance

(86) Sum Insured  
(87) Standard Policy  
(88) Student Safety Insurance  
(89) Subrogation  
(90) Survey

(91) Surveyor  
(92) Survey Report  
(93) Temporary Total Disablement.  
(94) Third Party Death  
(95) Third Party Injury

(96) Third Party Liability  
(97) Third party Property damage.  
(98) Traveler's baggage Insurance  
(99) Utmost Good Faith  
(100) Warehouse to Warehouse.

(Compiled by Shri V. Subramanian, Retired Senior manager, United India Insurance Co. Ltd.)



# HISTORY OF MOBILE PHONES

(Reference Wikipedia)

The history of mobile phones, covers mobile communication devices which connect wirelessly to the public switched telephone network.

While the transmission of speech by radio has a long history, the first devices that were wireless, mobile, and also capable of connecting to the standard telephone network is much more recent. The first such devices were barely portable compared to today's compact hand-held devices, and their use was clumsy.

Along with the process of developing more portable technology, and better interconnections system, drastic changes have taken place in both the networking of wireless communication and the prevalence of its use, with smartphones becoming common globally and a growing proportion of Internet access is now done via mobile broadband.



## Predecessors

Before the devices that are now referred to as mobile phones existed, there were some precursors. In 1908 a Professor Albert Jahnke and the Oakland Transcontinental Aerial Telephone and Power Company claimed to have developed a wireless telephone. They were accused of fraud and the charge was then dropped, but they do not seem to have proceeded with production. Beginning in 1918 the German railroad system tested wireless telephony on military trains between Berlin and Zossen. In 1924, public trials started with telephone connection on trains between Berlin and Hamburg. In 1925, the company Zugtelephonie A. G. was founded to supply train telephony equipment and in 1926 telephone service in trains of the Deutsche Reichsbahn and the German mail service on the route between Hamburg and Berlin was approved and offered to 1st class travelers.

In 1907, the English caricaturist Lewis Baumer published a cartoon in Punch magazine entitled "Predictions for 1907" in which he showed a man and a woman in London's Hyde Park each separately engaged in gambling and dating on wireless telephony equipment. Then in 1926 the artist Karl Arnold created a visionary cartoon about the use of mobile phones in the street, in the picture "wireless telephony", published in the German satirical magazine Simplicissimus.

The portrayal of a utopia of mobile phone in literature dates back to the year 1931. It is found in Erich Kästner's children's book *The 35th of May, or Conrad's Ride to the South Seas*:



Karl Arnold drawing of public use of mobile telephones

*"A gentleman who rode along the sidewalk in front of them, suddenly stepped off the conveyor belt, pulled a phone from his coat pocket, spoke a number into it and shouted: "Gertrude, listen, I'll be an hour late for lunch because I want to go to the laboratory. Goodbye, sweetheart!" Then he put his pocket phone away again, stepped back on the conveyor belt, started reading a book... "*

—Erich Kästner

The Second World War made military use of radio telephony links. Hand-held radio transceivers have been available since the 1940s. Mobile telephones for automobiles became available from some telephone companies in the 1940s. Early devices were bulky, consumed high power, and the network supported only a few simultaneous conversations. Modern cellular networks allow automatic and pervasive use of mobile phones for voice and data communications.

In the United States, engineers from Bell Labs began work on a system to allow mobile users to place and receive telephone calls from automobiles, leading to the inauguration of mobile service on 17 June 1946 in St. Louis, Missouri. Shortly after, AT&T offered Mobile Telephone Service. A wide range of mostly

incompatible mobile telephone services offered limited coverage area and only a few available channels in urban areas. The introduction of cellular technology, which allowed re-use of frequencies many times in small adjacent areas covered by relatively low powered transmitters, made widespread adoption of mobile telephones economically feasible.

One of the earliest fictional descriptions of a mobile phone can be found in the 1948 science fiction novel *Space Cadet* by Robert Heinlein. The protagonist, who has just traveled to Colorado from his home in Des Moines, receives a call from his father on a pocket telephone. Before going to space he decides to ship the telephone home "since it was limited by its short range to the neighborhood of an earth-side [i.e. terrestrial] relay office." Ten years later, an essay by Arthur C. Clarke envisioned a "personal transceiver, so small and compact that every man carries one." He wrote: "the time will come when we will be able to call a person anywhere on Earth merely by dialing a number." Such a device would also, in Clarke's vision, include means for global positioning so that "no one need ever again be lost." Later, in *Profiles of the Future*, he predicted the advent of such a device taking place in the mid-1980s. U.S. TV series *Get Smart* (1965-1970) depicted spy gadgets with mobile telephones concealed in random objects, including shoes.

In the USSR, Leonid Kupriyanovich, an engineer from Moscow, in 1957-1961 developed and presented a number of experimental models of handheld mobile phones. The weight of one model, presented in 1961, was only 70 g and could fit on a palm. However, in the USSR the decision at first to develop the system of the automobile "Altai" phone was made.

In 1965, Bulgarian company "Radioelektronika" presented on the

Inforga-65 international exhibition in Moscow the mobile automatic phone combined with a base station. Solutions of this phone were based on a system developed by Leonid Kupriyanovich. One base station, connected to one telephone wire line, could serve up to 15 customers.

The advances in mobile telephony can be traced in successive generations from the early "OG" services like MTS and its successor Improved Mobile Telephone Service, to first generation (1G) analog cellular network, second generation (2G) digital cellular networks, third generation (3G) broadband data services to the current state of the art, fourth generation (4G) native-IP networks.

#### Early services - MTS

In 1949, AT&T commercialized Mobile Telephone Service. From its start in St. Louis, Missouri, in 1946, AT&T then introduced Mobile Telephone Service to one hundred towns and highway corridors by 1948. Mobile Telephone Service was a rarity with only 5,000 customers placing about 30,000 calls each week. Calls were set up manually by an operator and the user had to depress a button on the handset to talk and release the button to listen. The call subscriber equipment weighed about 80 lb.

Subscriber growth and revenue generation were hampered by the constraints of the technology. Because only three radio channels were available, only three customers in any given city could make mobile telephone calls at one time. Mobile Telephone Service was expensive, costing 15 USD per month, plus 0.30 to 0.40 USD per local call, equivalent to about 176 USD per month and 3.50 to 4.75 per call in 2012 USD.

In the UK there was also a vehicle based system called "Post Office Radiophone Service" it was launched around the city of Manchester in 1959, and although it required callers to speak to an operator, it was possible to be put through to any subscriber in Great Britain. The service was extended to London in 1965 and other major cities in 1972.

#### IMTS

AT&T introduced the first major improvement to mobile telephony in 1965, giving the improved service the obvious name of Improved Mobile Telephone Service. IMTS used additional radio channels, allowing more simultaneous calls in a given geographic area, introduced customer dialing, eliminating manual call setup by an operator, and reduced the size and weight of the subscriber equipment.

Despite the capacity improvement offered by IMTS, demand outstripped capacity. In agreement with state regulatory agencies, AT&T limited the service to just 40,000 customers system wide. In New York City, for example, 2,000 customers shared just 12 radio channels and typically had to wait 30 minutes to place a call.

#### Radio Common Carrier



A mobile radio telephone

Radio Common Carrier or RCC was a service introduced in the 1960s by independent telephone companies to compete against AT&T's IMTS. RCC systems used paired UHF 454/459 MHz and VHF 152/158 MHz frequencies near those used by IMTS. RCC based services were provided until the 1980s when cellular AMPS systems made RCC equipment obsolete.

Some RCC systems were designed to allow

customers of adjacent carriers to use their facilities, but equipment used by RCCs did not allow the equivalent of modern "roaming" because technical standards were not uniform. For example, the phone of an Omaha, Nebraska-based RCC service would not be likely to work in Phoenix, Arizona. Roaming was not encouraged, in part, because there was no centralized industry billing database for RCCs. Signaling formats were not standardized. For example, some systems used two-tone sequential paging to alert a mobile of an incoming call. Other systems used DTMF. Some used Secode 2805, which transmitted an interrupted 2805 Hz tone (similar to IMTS signaling) to alert mobiles of an offered call. Some radio equipment used with RCC systems was half-duplex, push-to-talk LOMO equipment such as Motorola hand-helds or RCA 700-series conventional two-way radios. Other vehicular equipment had telephone handsets and rotary dials or pushbutton pads, and operated full duplex like a conventional wired telephone. A few users had full-duplex briefcase telephones (radically advanced for their day)

At the end of RCC's existence, industry associations were working on a technical standard that would have allowed roaming, and some mobile users had multiple decoders to enable operation with more than one of the common signaling formats (600/1500, 2805, and Reach). Manual operation was often a fallback for RCC roamers.

### **The cellular concept**

In December 1947, Douglas H. Ring and W. Rae Young, Bell Labs engineers, proposed hexagonal cells for mobile phones in vehicles. At this stage, the technology to implement these ideas did not exist, nor had the frequencies been allocated. Two decades would pass before Richard H. Frenkiel, Joel S. Engel and Philip T. Porter of Bell Labs expanded the early proposals into a much more detailed system plan. It was Porter who first proposed that the cell towers use the now-familiar directional antennas to reduce interference and increase channel reuse (see picture at right) Porter also invented the dial-then-send method used by all cell phones to reduce wasted channel time.

In all these early examples, a mobile phone had

to stay within the coverage area serviced by one base station throughout the phone call, i.e. there was no continuity of service as the phones moved through several cell areas. The concepts of frequency reuse and handoff, as well as a number of other concepts that formed the basis of modern cell phone technology, were described in the late 1960s, in papers by Frenkiel and Porter. In 1970 Amos E. Joel, Jr., a Bell Labs engineer, invented a "three-sided trunk circuit" to aid in the "call handoff" process from one cell to another. His patent contained an early description of the Bell Labs cellular concept, but as switching systems became faster, such a circuit became unnecessary and was never implemented in a system.



A cellular telephone switching plan was described by Fluhr and Nussbaum in 1973, and a cellular telephone data signaling system was described in 1977 by Hachenburg et al.

### **Handheld mobile phone**



Martin Cooper photographed in 2007 with his 1973 handheld mobile phone prototype

Prior to 1973, mobile telephony was limited to phones installed in cars and other vehicles. Motorola was the first company to produce a handheld mobile phone. On 3 April 1973, Martin Cooper, a Motorola researcher and executive, made the first mobile telephone call from handheld subscriber equipment, placing a call to Dr. Joel S. Engel of Bell Labs. The prototype handheld phone used by Dr. Cooper weighed 1.1 kg and measured 23 cm long, 13 cm deep and 4.45 cm wide. The prototype offered a talk time of just 30 minutes and took 10 hours to re-charge.

John F. Mitchell, Motorola's chief of portable communication products and Cooper's boss in 1973, played a key role in advancing the development of handheld mobile telephone equipment. Mitchell successfully pushed Motorola to develop wireless communication products that would be small enough to use anywhere and participated in the design of the cellular phone.

### **The early generations**

Newer technology has been developed and rolled out in a series of waves or generations. The "generation" terminology only became widely used when 3G was launched, but is now used retroactively when referring to the earlier systems.

#### **1G – Analogue cellular**

First automatic analogue cellular systems deployed were NTT's system first used in Tokyo in 1979, later spreading to the whole of Japan, and NMT in the Nordic countries in 1981.

The first analogue cellular system widely deployed in North America was the Advanced Mobile Phone System (AMPS). It was commercially introduced in the Americas in October 13, 1983, Israel in 1986, and Australia in 1987. AMPS was a pioneering technology that helped drive mass market usage of cellular technology, but it had several serious issues by modern standards. It was unencrypted and easily vulnerable to eavesdropping via a scanner; it was susceptible to cell phone "cloning;" and it used a Frequency-division multiple access (FDMA) scheme and required significant amounts of wireless spectrum to support.

On 6 March 1983, the DynaTAC mobile phone launched on the first US 1G network by Ameritech. It cost \$100m to develop, and took over a decade to reach the market. The phone had a talk time of just thirty-five minutes and took ten hours to charge. Consumer demand was strong despite the battery life, weight, and low talk time, and waiting lists were in the thousands.

Many of the iconic early commercial cell phones such as the Motorola DynaTAC Analog AMPS were eventually superseded by Digital AMPS (D-AMPS) in 1990, and AMPS service was shut down by most North American carriers by 2008.

In February 1986 Australia launched its Cellular Telephone System by Telecom Australia. Peter Reedman was the first Telecom Customer to be connected on 6 January 1986 along with five other subscribers as test customers prior to the official launch date of 28 February.

#### **2G – Digital cellular**

In the 1990s, the 'second generation' mobile phone systems emerged. Two systems competed for supremacy in the global market: the European developed GSM standard and the U.S. developed CDMA standard. These differed from the previous generation by using digital instead of analog transmission, and also fast out-of-band phone-to-network signaling. The rise in mobile phone usage as a result of 2G was explosive and this era also saw the advent of prepaid mobile phones.

In 1991 the first GSM network (Radiolinja) launched in Finland. In general the frequencies used by 2G systems in Europe were higher than those in America, though with some overlap. For example, the 900 MHz frequency range was used for both 1G and 2G systems in Europe, so the 1G systems were rapidly closed down to make space for the 2G systems. In America the IS-54 standard was deployed in the same band as AMPS and displaced some of the existing analog channels.

In 1993, IBM Simon was introduced. This was possibly the world's first smartphone. It was a mobile phone, pager, fax machine, and PDA all rolled into one. It included a calendar, address book, clock, calculator, notepad, email, and a

touchscreen with a QWERTY keyboard. The IBM Simon had a stylus you used to tap the touch screen with. It featured predictive typing that would guess the next characters as you tapped. It had applications, or at least a way to deliver more features by plugging a PCMCIA 1.8 MB memory card into the phone. Coinciding with the introduction of 2G systems was a trend away from the larger “brick” phones toward tiny 100 – 200 gram hand-held devices. This change was possible not only through technological improvements such as more advanced batteries and more energy-efficient electronics, but also because of the higher density of cell sites to accommodate increasing usage. The latter meant that the average distance transmission from phone to the base station shortened, leading to increased battery life while on the move.

### **3G – Mobile broadband**

As the use of 2G phones became more widespread and people began to utilize mobile phones in their daily lives, it became clear that demand for data (such as access to browse the internet) was growing. Further, experience from fixed broadband services showed there would also be an ever increasing demand for greater data speeds. The 2G technology was nowhere near up to the job, so the industry began to work on the next generation of technology known as 3G. The main technological difference that distinguishes 3G technology from 2G technology is the use of packet switching rather than circuit switching for data transmission. In addition, the standardization process focused on requirements more than technology (2 Mbit/s maximum data rate indoors, 384 kbit/s outdoors, for example).

Inevitably this led to many competing standards with different contenders pushing their own technologies, and the vision of a single unified worldwide standard looked far from reality. The standard 2G CDMA networks became 3G compliant with the adoption of Revision A to EV-DO, which made several additions to the protocol while retaining backwards compatibility

Although mobile phones had long had the ability to access data networks such as the Internet, it was not until the widespread availability of good

quality 3G coverage in the mid-2000s (decade) that specialized devices appeared to access the mobile internet. The first such devices, known as “dongles”, plugged directly into a computer through the USB port. Another new class of device appeared subsequently, the so-called “compact wireless router” such as the Novatel MiFi, which makes 3G internet connectivity available to multiple computers simultaneously over Wi-Fi, rather than just to a single computer via a USB plug-in.

Such devices became especially popular for use with laptop computers due to the added portability they bestow. Consequently, some computer manufacturers started to embed the mobile data function directly into the laptop so a dongle or MiFi wasn’t needed. Instead, the SIM card could be inserted directly into the device itself to access the mobile data services. Such 3G-capable laptops became commonly known as “netbooks”. Other types of data-aware devices followed in the netbook’s footsteps. By the beginning of 2010, E-readers, such as the Amazon Kindle and the Nook from Barnes & Noble, had already become available with embedded wireless internet, and Apple Computer had announced plans for embedded wireless internet on its iPad tablet devices beginning that Fall.

### **4G – Native IP networks**

By 2009, it had become clear that, at some point, 3G networks would be overwhelmed by the growth of bandwidth-intensive applications like streaming media. Consequently, the industry began looking to data-optimized 4th-generation technologies, with the promise of speed improvements up to 10-fold over existing 3G technologies. The first two commercially available technologies billed as 4G were the WiMAX standard (offered in the U.S. by Sprint) and the LTE standard, first offered in Scandinavia by TeliaSonera.

One of the main ways in which 4G differed technologically from 3G was in its elimination of circuit switching, instead employing an all-IP network. Thus, 4G ushered in a treatment of voice calls just like any other type of streaming audio media, utilizing packet switching over internet, LAN or WAN networks via VoIP.

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