

Some illustrations of leadership for engineers from another source

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ABSTRACT: The paper based on this abstract will use characters in Gilbert's works, objectively comparing their actions with leadership behaviour as given in the general texts on the topic. The comparisons will continue by methodically considering his structures of leadership successes and failures. The result of those studies will show that Gilbert was more than a writer of plays to be set to music, he also understood and illustrated how some perform the leadership act well, some poorly, and how others respond to leaders. The conclusion is that there are lessons on leadership in surprising places, such as comic opera.

INTRODUCTION

What do we know about leadership, the art (doubtfully science) of leading? The number of books on that topic suggests we know an immensity, there are books directly on it, there are books touching on it as part of their main theme, there is history, there are religious works, and having wandered through all those and wondered what they, with the variations on what should be a common theme, really mean. So we look for another source of information about leadership, and choosing the output of W.S. Gilbert to illustrate aspects of leadership rolls three concepts of leadership into one, for Gilbert was certainly inspired, his work (particularly with support from his co-worker, Sullivan) was quite agile by hitting on many features of his society, and his success is indicated by his operettas still being performed and enjoyed by people more than a century after they were written. That work is worth exploring for aspects of leadership.

But, first, we need some introductory remarks about the man whose work we will be discussing, to the historic period in which Gilbert lived, about leadership *per se*, and its relationship with our engineering profession.

INTRUDUCING GILBERT

The output of William Schwenk Gilbert, born 1836, died 1911, is an essential part of the Queen Victoria era. A barrister and a knight, and best known as a man of words, words contained in over 75 plays, fourteen comic operas usually referred to as the Savoy Operas, volumes of light poetry with illustrations, originator of phrases which now form part of the English language, and so on, and so on, and - altogether, the quantity pouring from his pen in some fifty years is quite extraordinary.

GILBERT'S TIME - A TIME OF NATIONAL LEADERSHIP

The Victorian period is long-past history to a present generation, but there is still many alive today who were born fairly soon, a few decades, after it ended (this author admits to inclusion in such a group). But it stands out as a time when a small country off the coast of the European continent, flourished, ran the (first) Industrial Revolution, became an extremely powerful entity in world affairs, and developed a world-wide empire, the first of any grand size since Rome.

It was led by a woman (one may argue English royalty is purely figure-head leadership, but it exists), under whom there were political leaders whose record shows effective results (however much nonsense went on in Parliament), who controlled also-effective military leaders (including at least one extremely stupid officer, who is said to have ordered a famous cavalry charge) - a time when the profoundly English process of *muddling through* worked wonders.

One of those wonders was something strange which happened in the century before that, a series of engineers developed

the use of steam power; the history of what happened is quite clear, but it's hard to understand why and how it began and was fostered by a few mechanical engineering men, poorly educated by today's standards. Steam led to the Industrial Revolution booming shortly after Queen Vic took the throne, and engineers at all levels became important, by building bridges (one, admittedly, collapsed in a storm), by building large steel-hulled ships (which, some people insisted, couldn't possibly float, but did), and by building structures (some of which still survive). The name Brunel is remembered as one who contributed grandly to English society by his engineering work, and now, appropriately, an English university takes his name. As a follow-on from the period, there is our Sydney Harbour Bridge, built in the late 1920's-early-1930's, but was conceived at the end of the Victorian era, in that era's style.

The above historical review relates Gilbert to a time when engineering was extremely important, when leadership was important in many ways, and the junction between the two was clearly demonstrated by England's development being led by engineering.

WHAT QUALITIES DOES A LEADER HAVE TO EXERT LEADERSHIP?

In a previous paper [1] this author culled leadership qualities from a wide range of writers (not individually cited here) and summarised these here as what a leader must be, show, or exert:

- be available, inclusive, humorous, fair, decisive, humble, objective, tough, effective, and patient, show true communication, integrity, composure and steadiness, self-control and action, sense of humour, uncommon sense and wisdom, empathy, a win-win approach to decision-making, humility, and selfless love, also having power (*charisma* is mentioned as a form of power) to move from vision to action;
- exert three variables or forces: knowledge, trust and power;
- show self-discipline, purpose, accomplishment, responsibility, knowledge, leadership, and example;
- be well-balanced, possess a sense of humour, or a sense of justice (however, the writer pointed out that some of the most successful leaders in history have lacked those qualities and have been neurotic, insane, epileptic, humourless, narrow-minded, unjust and authoritarian: not recommended qualities for anyone).

References also refer to the *great man* and the *trait theories*, both suggesting leaders are born, not made, and to the cultural determinism theory, that leaders appear when circumstances require them.

All the above makes sense, item by item, but trying to fit all of them into any one person's character defies reason because some conflict with others; from the first line above one may reasonably ask, for example: how can a leader, trying to achieve a result, be both fair and decisive when faced by opposing opinions from the followers? Does a leader succeed because he has a selection of positive qualities to match the circumstances? Does a leader succeed *despite* having some qualities negative to the circumstances?

Such conundrums caused this author to explore (in the cited paper) the fallacy and paradox of leadership, and conclude very little about it makes sense, but we have to acknowledge it *happens*, it *works*, as shown by history.

There is another side to leadership, worth noting and well shown by Gilbert's personal attitude, which is being convinced one must carry on no matter how strong any opposition may be - more or less covered by the words *courage of conviction* - in Gilbert's case demonstrated by his lampooning the legal system and the Royal Navy (among other English institutions), much of which was hidden in, disguised by, quaint wording and his co-worker's music. There is a general understanding that Queen Victoria was displeased with him over his presentation of some feature of English life (a reference to this cannot be found, but memory recalls it was the opera about the Navy), which resulted in his knighthood being held back for many years after his co-worker became *Sir Arthur Sullivan*.

A final point, here, on the general topic of leadership, is something which has emerged from meditation during writing this paper: the usually accepted context of *being a leader* is that leaders take followers with them in whatever endeavour they attempt. But there is an alternative application of the title *leader*, it is a person who takes up something individually, perhaps a new line of thought, or a specific stand-alone function, perhaps in defiance of established practice or dogma. History has shown such people, and in many cases followers have rallied *after* the person has acted.

LOOKING SPECIFICALLY AT ENGINEERING LEADERSHIP

Talking about leadership to engineers is difficult because the topic seems to fit poorly in an engineer's mind. The military? Yes, in that leadership is obviously important, indeed vital, the essence of leadership fits members from the lowest rank to the highest. But in ordinary manufacturing industry? Hardly, although the foreman has been described as *the top sergeant of industry* [2], suggesting foremen (of either gender) should be leaders for the *workers*, like their military counterpart. And higher up in the engineering hierarchy? At the professional levels?

One of the few positions which does require leadership qualities is project manager/engineer, having a team working with him (or her), subject to instructions given. The similarity to a military exercise is too good to miss giving as an analogy, the success or otherwise of a project depends almost entirely on the efforts of the project manager/engineer;

the qualifying *almost* is given here as recognition of what we term *luck*, which can intervene and snatch victory from the jaws of defeat, or, of course, the opposite.

That deserves a comment; if there is any doubt such an unquantifiable quality exists in a leader's mind we point to the question Napoleon is said to have asked about an officer recommended to him: *But is he lucky?* Napoleon's long success may well be attributed his opponents' foolishness, but that is a factor which contributes to luck - whatever that intangible quality might be, all worthy of longer discussion. This seeming digression is relevant to our topic, not suggesting a leader needs to *depend* on luck, but to remark it is something which happens, creating positive and negative opportunities, which a leader must recognise, then seize one and discard the other. *Carpe diem*.

Looking back a few lines, the position titled *project manager* was mentioned as one requiring the leadership quality, and we may ask: why is it so? And what makes it work? That is, how does the appointed person become a leader of the project team? A recently-discovered book provided ten qualities a leader has, and the first given is *vision*, which fits very well with project management; the manager of a project has, quite literally, a vision of a completed project, so the vision can be said to draw the project manager onward, resulting in leading the followers towards the same end [3].

That leads this author to identify something of a similarly effective *vision* for the less dramatic work of engineers in production-type, ordinary manufacturing industry. Some decades ago, when working for a large international chemical manufacturer, Australia was invaded by several then-new management concepts, one of which was *management by objectives*. As a topic *objectives* received lengthy treatment by Drucker in several of his books, but *management by objectives* appears to have been originally promulgated by Urwick, Orr and Partners and presented in print by Humble [4].

Essentially, this management technique provided members of that Sydney factory's engineering management team, from top (Works Engineer) to lowest level (foremen) with quantitative and qualitative results (termed *objectives*) to be achieved in progressive three months with a year-end total, with those of each level of the team strictly related to the ones above and below. This provided a *vision* similar to that held by a project manager, something to be reached at the end of a specified time by each member personally, and the group, collectively.

The benefit of this, as a feature of engineering leadership, was its integrating the team into a single direction. The Works Engineer's objectives led the way, with parts of those delegated progressively down through the ranks. The military analogy in this was never discussed at the time, but in hindsight it is definitely seen to have been there.

So, in the literature on engineering management, do we find much on leadership? A search through a range of texts, from decades back to relatively recent, has found a scattering. Example: an early work on engineering management [5] gave considerable detail on an engineering department's activities, but nothing on leadership, this author's book [6] covered it as thoroughly possible in one chapter, a fairly recent Australian book [7] omits the topic in both the contents and the index, and another fairly recent Australian book [8] does give leadership some pages, covering several styles and the pros and cons of some of them. Quite a mixture. Is this very qualitative, non-technical, topic relevant to engineers? It appears some say yes, some may be ambivalent, fortunately there are no negatives.

Now, having dealt with those preliminaries, let us look at Gilbert, and he will be introduced by a quotation from Mary Parker Follett (1868-1933), an eminent writer of early last century [9], indeed, a contemporary of Gilbert in the sense their years overlapped. She included leadership in her management output, and in this context one sentence stands out:

...we have three kinds of leadership: the leadership of position, the leadership of personality, and the leadership of function.

LEADERSHIP OF POSITION

Two characters in *The Mikado* (set in Japan but a satire on aspects of English life in the 1880s) show leadership of position. The most prominent one is the Mikado himself, the Emperor of Japan, who introduces himself with:

*From every kind of man
Obedience I expect
I'm the Emperor of Japan –*

and after being continually interrupted by Katisha, *his daughter-in-law-elect*, continues with a statement how he proposes to deal with a variety of miscreants, all selected as annoying persons in English society (and regarded as such, one must assume, by Gilbert).

An emperor definitely has position, whether obtained by hereditary or elective means, and therefore has the ability and capacity to act as a leader. The Mikado demonstrates that by naming the punishments he would inflict on those social pests, and that in turn demonstrates a significant feature of the *leader by position*, he (or she) has power in that position. Taking that further, a person in a top position such as the Emperor has *power by retention*, no-one can take it away from

the Emperor; however, (Katisha shows she would like to have a share of that power - but another feature of old-fashioned position-power is it cannot be shared).

The Emperor's power is also demonstrated later, when given (fortunately proved incorrect) information that his son has been executed he pronounces punishment on the three officials responsible for his son's (supposed) execution, and the three respond with abject and apologies and terrified behaviour, all highly exaggerated to suit the play, but clearly showing the effect of judgement by a power-person.

The other character with leadership-position-power is Pooh-Bah, who presents an interesting example of one in a self-appointed position and of a person who has a high opinion of himself and his position. The first is explained in his words: *When all the great officers of State resigned in a body - did I not unhesitatingly accept all their posts at once?* That is followed by a list of the eight posts, and clear indication he accepts the salary of all of them, plus whatever might be, as *Lord-High-Everything-Else*. Thus, he's the leader of a host of government departments, probably satirising someone in the English government of the time, with power to control the actions of all the (assumed) employees.

In *The Pirates of Penzance* we meet a gang of pirates, with an unnamed character titled *The Pirate King*, not captain or another nautical rank, but *King*, even though the pirates are shown to operate from a ship, visible in the scenery at the rear, in Act One. The King is, obviously, the gang's boss, their leader, indeed the pirate crew cheer him when he proclaims his position as their King. He also shows it by having a shift of judgement accepted, even though he does that expediently - early in the opera, in Act One, he accepts that Frederic, who had been apprenticed to piracy for some years, would be released from service within an hour, then later he refuses to release Frederic because he was born on 29th February and the apprenticeship term was to be served until his twenty-first birthday, not until he is twenty-one years old. His reason is, simply, to protect his position; an example, undoubtedly, of a leader (here, manager of a commercial enterprise) adjusting a decision to suit circumstances.

Finally, it is most important that a leader should *not only lead but be seen to lead*. The classic example of a leader who met neither of these criteria was W.S. Gilbert's character the Duke of Plaza-Toro, in the opera *The Gondoliers*, who:

*In enterprise of martial kind,
When there was any fighting,
He led his regiment from behind,
He found it less exciting.
But when away his regiment ran,
His place was to the fore, O,
That celebrated, Cultivated, Underrated, Nobleman,
The Duke of Plaza-Toro!*

The other lines in this aria are equally as indicative of the Duke's leadership (ahem!) qualities, and we leave it to the reader to look up the full text; it is very instructive in telling how *not* to lead.

LEADERSHIP OF PERSONALITY

In the search for a character to fit the above title we cannot go past Major-General Stanley, a leader in *The Pirates of Penzance*, not only as a member of the opera's cast and as a military officer but also as an expert on a wide range of history, mathematics and classical literature. Perhaps his having four attractive daughters could also be counted as a personality feature, but having established himself at such a high level in so many fields, sadly, he destroys that image by becoming involved in a ridiculous misunderstanding caused by a word mispronounced in an intention to deceive, followed by his displaying intense remorse over the deception. All nonsense, but illustrating how an established *personality* can be reduced by a misdemeanour.

In the same opera we find Frederic, also a leader *via* personality, in seeking to right the wrongs perpetrated by a pirate band by bringing justice upon them. His connection with the pirates goes back years, to his father wishing him to be apprenticed as a *pilot*, but the servant misheard the instruction and apprenticed him to a *pirate*, further complicated by his being born in a leap year, on 29th February. Out of all that comes a goody-goody personality, prepared to disregard any camaraderie with the group in which he had worked for years and side with the law, raising a personality-question: was his being a traitor to the group in which he had worked justified by shifting to support of law-and-order?

The benefit of, and whatever lesson might be taken from, such a personality raises that ethical question: did he do *right* by setting the police onto his long-term companions? Or did he do *wrong* by ratting on those fellow-workers? An interesting question, one may be sure it was not originated by Gilbert, and this author observed a similar situation a few years ago, when a junior engineer reported his employer's non-observing pressure vessel regulations (detailed in [10]). A personality able to make a choice between such alternatives may be *goody-goody* but, like Gilbert, has courage of conviction, is prepared to act, and accept consequences. In Frederic's case he led the police to the pirates and caused their arrest.

LEADERSHIP OF FUNCTION

For this we return to *The Mikado* and select from the cast Ko-ko, the Lord High Executioner (the only civic office not taken by Pooh-Bah, who was Lord High Everything Else). Ko-ko's function, of course, is to execute all those condemned to death by the authoritative powers of the town of Titipu, so he is an example of the stand-alone leader, one who has no followers but who is the *top gun* (or, more correctly to suit his work, the *top axe*) in the executive (an irresistible pun) department of the town's government.

A more traditional example of this form of leadership, of one combining function with having followers, is the sergeant of police in *The Pirates of Penzance*, brought in by Frederic's defection from the pirates' ranks to law and order. This character shows another, indeed curious, feature of leadership, due to the circumstances in which he is involved; he and his team express some reluctance towards what they must do, with the line: *A policemen's lot is not a happy one*, all because criminals (listed as felons, burglars, cut-throats) are capable of being nice fellows when not performing their customary pursuits. Thus, they see that their functional duties may sometimes require them to act contrary to their moral, or ethical to others, inclinations, illustrating the same leadership dilemma faced by Frederic: does the leader follow the vision and accept the possibly distasteful consequences to some? Or discard the vision in favour of a more pleasant, less harmful to anyone, result? Gilbert's police had the former view, applying justice to the criminal characters and ignoring their (possibly, sometimes, part-timely) better natures.

An earlier opera, *H.M.S. Pinafore* also provides examples of functional leadership through several ranks. At the top, we have the Rt. Hon. Sir Joseph Porter, K.C.B., First Lord of the Admiralty, then Captain Corcoran, Commanding H.M.S. Pinafore, and down to lower ranking the Boatswain Bill Bobstay, all having functions related to the Navy's operation. The general picture Gilbert painted was that the man at the low rank was competent, the middle rank's abilities were doubtful, and the one at the top held an undeserved position. The latter is given by Sir Joseph admitting that he worked his way up from *office boy to an Attorney's firm* to clerk, to partner, to member of parliament, to First Lord of the Admiralty, even though *that junior partnership - was the only ship that I ever had seen*, followed by the recommendation: *Stick close to your desks and never go to sea, and you all may be Rulers of the Queen's Navee!*

This was, undoubtedly, a satirical attack on some English institutions of the time, and could have been a factor in the Queen's displeasure. Re leadership in this: well, it's a common observation that lower ranks are generally good at managing the required actions, whereas the top ranks have been noted to be less, often considerably less, competent, and sensible leaders in the middle rely heavily on those below them. Then, when events turn to success the higher ranks take the credit - we will not contemplate alternatives to that.

LESSONS ON LEADERSHIP

The lessons from reading Gilbert's plays, or seeing them performed, gave nothing new at the time they were presented, what they displayed was part of human nature going back thousands of years (at least) and, equally, nothing today. However, it is worth reviewing what is in them, and to do that we will track back through Follett's three types of leadership; position, personality and function.

Position is almost an automatic means of becoming a leader, position can provide power, with which the leader can produce results. The Emperor-Mikado and the Pirate King both show *official* power by controlling subjects in the farmer's case and crew members for the latter. Somewhat contrary-wise, Pooh-Bah only has only *delegated* power, though being appointed to those many positions, so when that power is withdrawn by the Emperor's wrath he is reduced to below ordinary citizen-level. The distinction between the two is, simply, that the first is permanent (only removed by something like divine intervention) and the second depends on keeping on the right side of whoever's at the top. The one at the top establishes and enforces the system, those next in line know how the system works, and they work it.

Personality can provide backing for a leader, particularly if the leader has the extreme form of personality we term *charisma*, introduced into psychology by Max Weber and taken up for more general use to explain why and how some people seem to be set apart from the mob by those around experiencing a near-divine attraction to the leader. The attraction may not, necessarily, be for ultimate good, and an outstanding illustration of that is Hitler's impact on his national population in the 1930-period, at which time his rise to leadership was apparently based on personality, plus the exigencies of the time.

More recently, we have had various cult-type groups spring up under a charismatic leader, often with regrettable results. However, whether in religion or politics, a leader with a suitable, courageous, and well-intended personality can influence results for the better, as did Frederic in *The Pirates of Penzance*.

Function, although we are supposed to have a near-egalitarian society, still sets people apart by some performing activities which set them apart from others. The police still exist, of course, and lead what is probably the lowest level of the justice system. Doctors and others in the medical profession have a leadership position in public and individual health. In education, lecturers and teachers lead the learning process. However, returning to a point made earlier, many of those who have functional roles may be leaders in the work they do, but have no followers trailing behind them.

The most fortunate, formidable, leader is the one who has a function related to the work he or she enjoys and is given a position by society or some controlling body where that function can be used, has an agreeable personality, and attracts a group of followers who assist in the performance of the function, which advances society's condition. None of Gilbert's characters fills those collected qualities. But is not that the case, even today?

The full text of the Savoy Operas is available from several sources; the one used here is [11].

With the exception of Newman's book [3] no references on leadership have been cited, there are so many, selection is unnecessary. However, to round off, we suggest [12], one reasonably recent and appropriately Australian, and [13], from America, a combination of presentation of the topic and analysis of six leaders in public life.

AND SUMMING UP FOR ENGINEERS?

Senior engineers tend to acquire positions which set them above others, fellow-professionals, tradesmen, clerks, and others, in which positions they face an ethical question argued very clearly in a recently-discovered book [13], though without adequate resolution. The question is whether it is ethical to manage others in their tasks when the manager's actions amount to manipulating them into changing their behaviour - which is exactly what a vision-help leader does, hence the question about leadership ethics. Take the example above, of introducing *management by objectives* to the engineering department. This shifted the aim of maintenance staff from *simply getting the job done* to *meeting the imposed objectives*, and while one may accept the one encloses the other (whichever way round you might take those two sets) they are not quite the same; the first is the basic requirement for the company's profit, and while the second may be said to include that it is also to satisfy what the company's bureaucracy required. Additionally, *management by objectives* became the game played through several years, and in some ways playing that game became more important (being tied to bonuses etc) than the job itself.

The dilemma caused by possible ethical conflict in the leadership act of manipulating people becomes very evident when those being led range between the professional level and those lower down the engineering hierarchy. As an example of this dilemma consider this author's recollection of relationships with various people in the employment period following the time mentioned above, when management by objectives was introduced. In this period the author was Engineering Manager of the company, and when dealing with the next-one-up, an extreme autocrat (perhaps modelled on Genghis Khan), the only possible behaviour was almost servile, effectively touching the forelock on arrival and at departure; with the long-term maintenance foreman the right approach was deference to his expertise as a tradesman and to his knowledge of the plant; but the junior engineers expected their boss to be all-knowing in technical matters. Is that shift of displayed *personality* ethical? Each communication audience was meeting a different person, the one to suit each in turn, so some would argue it was a breach of ethics, and, likely, also of morality.

As a further example of how the unspoken message can be interpreted (or, *mis*-interpreted), when speaking directly to any of the tradesmen in that company the author made great effort to *come across* as a democratic boss (leader in this paper's context), but after holding the position for several years a student on vacation employment revealed that the workshop personnel compared the author with Captain Bligh.

As a philosophical remark, it is often, indeed almost usual, to find leadership is a lonely business, even when a band of followers is attached to the leader, because the role sets that person aside from the group.

SOME CONCLUSIONS

Gilbert's *leaders* stand out and are accepted by theatre audiences because they occur in real life, in the real world in which we live. The satirical presentation may soften them but does not detract from the intended criticism.

But what about leadership itself, *per se*, intrinsically? Yes, we see examples, which appear in writings which may be regarded as more scholarly, and the examples show us features which exist. But of the topic itself we can never learn what it is, how it comes about, it is all a mystery. We may search and hunt for any level of understanding, but every step takes us deeper into it. A line from a musical seems to fit: *Fools give you reasons, wise men never try.*

Questions arise. Why are some given an authoritative position and hence accepted as appointed leaders, though they do not show leadership qualities? And why another who becomes a leader, in the sense of being a *top-person* in some function or matter of expertise, is not accepted by the surrounding crowd, hence not acquiring followers? Would it be personality? Ah, scope for another paper on this never-ending, intriguing and exhausting, subject.

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