Volumes have been written on the subject of leadership from numerous perspectives and circumstances. The observations that follow do not represent a scholarly analysis or review of the subject, but rather simply reflect my personal opinions based on my experience in several arenas: my upbringing, my first job at NASA, as Department Chair of Orthopaedic Surgery, Mayo, as a member of the Board of Directors at the Mayo Clinic and as an interim CEO of a startup medical device company.

I will explore my perspective of ‘leadership’ from the backdrop of my first profession, that of an aerospace engineer at NASA, and will develop it further based on the experiences mentioned. My responsibility at NASA was to help develop the abort logic for the Apollo missions. Failure was not an option. This job required being clear about the task, understanding what resources were required, a thorough appreciation of the impediments to developing and executing the plan that would lead to success and, finally, to always expect something to go wrong. These same variables obtain when discussing leadership in general, and specifically within our profession. The sometimes complex interplay between leadership talent and style with the governing body, the task and expectations, resources, authority and the environment – both intrinsic and extrinsic – are all at play and determine success or failure of the leader and of the expected goal (Fig. 1).

What comes to mind immediately is that there are two considerations implied in Fig. 1. The first is the nature of the task and the second is how well matched the talent and competency of the person is to the task, goal or expectation. In this context I think it important to distinguish two different circumstances that in turn require different types of leaders and leadership style: Type 1, the right person at the right time, failure is not an option; and Type 2, universal characteristics of an effective leader, regardless of the task or circumstances, failure is however not fatal. Allowing Fig. 1 to be our guide, we will start with a discussion of the task followed by the circumstances and environment, then explore the individual characteristics of leadership and close with my perspective on style and execution.

**The task**

**Attainable?**

The first and arguably most important consideration is whether the goal is attainable. This of course is dependent on the nature of the problem, resources available to solve the problem and the environment. It is the responsibility of the ultimate authority to define an attainable goal – otherwise the talents or actions of the leader are moot.

**Clarity**

Although this is as obvious as it can be, the expectation must also be clear, well defined and consistent. While circumstances may alter the needed end result, expectation cannot change on a whim.
The environment

To validate the proposition that the goal is clear and attainable may require considerable analysis of numerous variables, not least the impact of both the internal and external environment.

Internal considerations

The assessment begins with the support and commitment to success that exists at the highest level – the President, CEO, or in the Mayo environment, Board of Governors. I have personally witnessed two instances in Orthopaedics, not at Mayo, where a turnaround was desired at Board level. However, two very competent leaders failed when the authority to execute the required changes was withheld. The second consideration is the readiness of the department for change. This, unlike institutional support, is somewhat dependent on the talent of the leader. One of the hallmarks of strong leadership is the ability to win confidence from the group and to align all concerned to achieve the ultimate goal. In addition, the authority of leadership cannot be questioned. Decisions can and should be discussed and debated – but not the authority to act. In addition, I consider the availability of adequate resources as an expression of the internal environment. The talent reflected by the department personnel and at the institutional level are the final features of the internal environment. As one steps back and considers the internal environment it is important to accept that developing a favourable environment largely, but not exclusively, rests with the leader.

External environment

The external environment is, to a great extent, independent of the leader and unfortunately often defines the magnitude of the task and the likelihood of success. This can be tricky but is an essential variable to first identify and then to successfully negotiate to the extent that this is possible. The most obvious example in medicine is reimbursement issues that are defined by third parties. Social mores and requirements are also a major issue at play today. What is socially and professionally acceptable is changing rapidly and dramatically. Leadership implies these changes are recognized and an appropriate sensitivity is reflected in addressing these issues. This component of the equation is quickly increasing in importance and requires rapid recognition and adaptation.

So, in summary, the possibility of successful ‘turn around’ leadership implies that the goal is humanely attainable and that the individual has the authority, support and resources to do what is necessary to realize the expectation. A corollary of this is that this authority is recognized and accepted by those involved. Just as we learned in medical training that form follows function, so too must authority follow responsibility.

The person

It seems logical to analyse the personal features of leadership as personal traits and, for lack of a better term, style. And while we have suggested from a broad perspective there are two types of leaders, there are more similarities than differences between the two. The Type 1 leader is driven by the magnitude of the challenge, the environment and implication of failure. The prototype is Sir Winston Churchill. In the present context it would be the need for a ‘turn around’ coach, Chairman or CEO. The Type 2 ‘leader for all seasons’ role is to sustain a successful department or improve an already successful enterprise. This is the more commonly encountered type.

Personal traits (Table 1)

Integrity

Integrity is the ‘sine qua non’ – that without which. The first and foremost characteristic of either leader is and must be integrity. There can simply be no long-term success without this quality as it defines the person and permeates all decisions. The most obvious expression of this is consistency and fairness to all. Integrity and fairness generate trust and loyalty. To have confidence and trust that the leader will always act in the best interest of all concerned enables acceptance of what are otherwise very unpleasant or unpopular decisions.

Character

All good leaders are of sound conviction and of strong personal character. For the Type 1 leader a key ingredient is the ability to withstand if not accept challenges and criticism. When the circumstances of survival are overwhelming, there will always be overt criticism of decisions made or even of the decision-making style. These barbs are anticipated and are not allowed to alter the course.

Charisma

In many instances a personal characteristic, charisma and eloquence inspire confidence. Hence, while not essential, charisma is a valuable feature as was well exhibited in the personality and leadership of General Douglas MacArthur.

Selflessness

While most would easily recognize and appreciate the above traits of leadership, possibly many fewer would cite

Table 1. Personal attributes of effective leaders

| Integrity | Character | Charisma | Selfless | Humanity | Energy | Discipline |
|-----------|----------|----------|----------|----------|--------|------------|

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or even consider selflessness in this discussion. Yet, I feel this is the single most overlooked attribute of those I deem to be essential. Admiral Chester Nimitz, Commander of the Pacific fleet in the Second World War, was widely respected for his competencies as a strategist, but also for his leadership, about which he is quoted to have observed: ‘Leadership consists of choosing good men and helping them do their best.’ I have always known the way to build a strong department is to identify, successfully recruit and successfully retain talent. And the way to retain the talent is to provide an environment that allows them to grow and realize their potential. In so doing you are serving the department and your colleagues and are acting selflessly. This instills trust and becomes the mortar of the mosaic. I think of a strong department as a mosaic. Every piece is different but when properly assembled and when one steps back, the full impact of the whole is appreciated. So a reflection of effectiveness of this approach are the opportunities for growth and advancement that arise within the group. Sadly, some may feel challenged by talented colleagues. If avoiding the threat of talent dictates who is chosen to build the enterprise, then the enterprise is in trouble.

**Humanity**

As physicians we should possess this feature in abundance, but maybe not. The effective leader will portray a genuine concern for the wellbeing of their colleagues, trainees, the entire support staff and their families. This results in a cohesiveness and reinforces an environment of trust. When having a difficult personal discussion or making difficult personal decisions this attribute will prevent making the event personal. As with our patients, we should always have our colleagues’ best interest in mind along with that of the enterprise.

**Energy**

It seems universally true that regardless of the requirements of the job or task, one essential characteristic of a successful leader is that of energy. In Orthopaedics the Chair is expected to be a busy clinician and ‘carry their weight’ of patient care and productivity. Implicit in this is, of course, the need to be able to multitask effectively. This is not to say that on occasion one must have laser focus, but, when necessary, several issues must be dealt with simultaneously. While multitasking is not a talent possessed by all, it is invaluable for the successful performance in complex decision-making environments and requires energy to successfully sustain.

**Discipline**

This personal trait is manifested in the ability to identify and focus on what needs to be done next, temporally. When many issues are at play it takes a strong sense of discipline to focus and accomplish in a sequential manner and to avoid doing a little on a lot, thus accomplishing less.

**Style (Table 2)**

Frankly, ‘style’ seems a very weak term for what I intend to convey, I just cannot think of a better word to express skillful execution.

**Motivate**

Not only is motivation of value in leadership, it in fact defines the concept. A simple definition of leadership is ‘the act of motivating a group to act toward a common goal’ (www.thebalancesmb.com). This is of course accomplished by one’s actions. However, like Churchill, many great leaders are consummate motivators, displaying communication skills in both the spoken and written word.

**Decisiveness**

With increased complexity and increased consequences there is a natural tendency to defer difficult decisions by gathering more data or assigning a group to further study the issue. While both may have merit, in my opinion they are too often simply delay tactics. This is particularly egregious when neither will they add anything substantively to what is already known and when the decision is time critical. Often, the Type 1 leader does not have the luxury of delay and will have to make the call. At times such decisions may be criticized as being risky or irresponsible. However, it is my experience that in most cases there is enough information that, if correctly interpreted, a decision that appears to be a risk, is in fact a carefully calculated venture. Alternatively, in less critical times, consensus and broadening the input serves to engender a sense of involvement that is of value if circumstances allow.

**Focus**

Focus is of value in all leadership roles, but the Type 1 leader focuses – or fails. The entire enterprise rests on success so there can be no alternative but to succeed. The strategy must and does have a clear and direct line of sight to the ultimate goal. Once again form follows function, so resources are focused on the end game as well.
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Flexibility
This, like multitasking, might be considered the opposite of focus. The trait is essential if the circumstances not only allow but call for it. This results from the ability to read a changing landscape and making the necessary adjustments. In my judgement flexibility largely resides in the confidence of being able to correctly interpret the data, and either pivot or double down depending on that interpretation. Note this is a talent and is in sharp contrast to indecisiveness. It requires the strength to make a mistake and acknowledge it.

Prioritize
‘Time is the currency of the realm.’ The requirements of leadership are more than a full-time job. To say one cannot waste time is self-evident. But how does one optimize the clock? Obviously, the ability to know what is most important and prioritize is essential. The act of prioritization itself takes both time and discipline. Relax and think through the issue – the key is ‘what needs to be done next’ – then act. More about ‘time’ later.

Talent
One of the most important traits of any leader is to wisely identify and successfully recruit talent. The ability to recognize and match the talent to the task is itself an essential consideration in selecting the leader. And by the same token it is the first requirement of the leader to do the same.

Delegation
It is clear that one attribute complements or builds on another. So if one has identified, recruited and retained talent, it is a simple and essential matter to then delegate responsibilities to those chosen. The inability to delegate, let go and trust others is one of the most common deficiencies of what would otherwise be regarded as strong leadership.

Succession
In academia as well as in business, a replacement Chair or CEO is often identified by seeking professional ‘head-hunter’ guidance to identify qualified candidates. As a Department Chair, I considered it my responsibility to participate in selecting my replacement, but not by anointing or lobbying for a successor. By identifying and delegating responsibility to talented colleagues, then the problem of succession should not be, ‘Where’s the talent?’, but rather ‘How can we choose from so many qualified candidates?’ So the real key is, again, the people.

Requirements of the leader and leadership
I will now discuss my personal perspective of leadership from an execution perspective. This is very personal and, as already emphasized, it starts with ‘your’ colleagues.

Table 3. Traits and attributes considered when recruiting an orthopaedic colleague into the Department. Preference is to add staff from our residents or fellows since we can assess these qualities over a five or one-year period respectively

| Trait                  |
|------------------------|
| Integrity              |
| Knowledge              |
| Judgment               |
| Hands (Gifted?)        |
| Humanity               |
| Energy                 |
| Selflessness           |
| Loyalty                |
| Creativity (Intellectual property potential) |

The people
‘Who are those guys?’ This classic line from the movie ‘Butch Cassidy and the Sundance Kid’ is a reminder of the most important task of the Department Chair or any good leader – surround yourself with talent (Table 3). The one absolutely essential requirement is to identify, recruit and retain exceptional talent. So what are the characteristics one looks for in building an effective department or business? I considered nine characteristics in recruiting department colleagues: integrity, knowledge, judgement, humanity, ‘hands’ – ideally gifted, energy, selflessness, and added later, loyalty and creativity – intellectual property potential. It is noted that several of these characteristics have been defined as important features of a strong leader. (Note: this litany of competencies also inherently identifies future leaders, which is also one of a Chairperson’s primary responsibilities). It is of course recognized that no one person will possess all these desirable attributes in full measure. Nonetheless the goal was to attempt to find the highest rating in each of the nine characteristics. The first eight are essential, the ninth is desirable but not essential.

Direction and decision making (Table 4)

The plan
Once the leader understands the task, a plan must be put in place to execute the responsibility. It is my experience that it is not just helpful, but essential, to define a clear direction with metrics to measure and assure success. This starts with defining a mission and vision statement that is clearly aligned with that of the institution. The most successful approach is to integrate the three department functions. For example, the research programme supports
the clinical strengths of the department, the education programme is a means to identify talented potential future staff. The entire department should participate in the discussion of goals and strategies and members of the department are assigned specific responsibilities for development and execution. As James Surowiecki has put it: ‘... there is no point making the small group part of the leadership structure, if you do not give the group a method of aggregating the opinion of its members’ (The Wisdom of Crowds).\(^1\)

\[\text{DNA} \]

I, like others in my chosen profession, are fortunate to have the calling to Orthopaedics. As such the process selects individuals who are used to making decisions. So, it is in the DNA of the orthopaedic surgeon to acquire the relevant data, spend time carrying out the analysis, then make the decision and move on. We do this every day as surgeons, and as leaders.

\[\text{The structure} \]

As noted above, one can only do so much. Since a person will typically either not have the time or will not possess all of the requisite knowledge or experience that encompasses the job requirement; delegation of responsibility and authority becomes essential. This is facilitated by the selection of talent. What was extremely beneficial for me personally was to form three Vice Chair positions that comprised the essentials of an academic department: clinical practice, research and education. Fortunately, our department possessed considerable talent and experience with these three functions, so delegation could take place with confidence. The next step is to define the metrics of success and integrate these into the strategic plan. The final step was to review progress annually or sooner if necessary. This department structure has proven to be invaluable and has provided the mechanism of exposing colleagues to leadership and allowing them to grow in that capacity.

\[\text{Communication} \]

As is well known, communication, or the lack thereof, is the essence of problematic relationships at the personal, departmental, institutional, national and international level. Lack of communication can even result in international hostilities. The ultimate intent is to demonstrate integrity in management and the desire to share important information relevant to one’s job or responsibility. The common (overused?) term today is transparency. That is, no hidden agenda or potential conflict of interest should be allowed to creep into the decision making. This awareness is universal and even found in the Rule of St. Benedict: ‘Whenever any important business has to be done. . . call together the whole community’ (Chapter 3). However, to be effective the communicator must have credibility, which is earned, not legislated. Finally, effective communication is not the same as volume – less communication with substantive content is better than more, much of which is irrelevant. It is the responsibility of leadership to develop a culture of clear and honest communication both internally and externally.

\[\text{Is it a mistake?} \]

This is hugely important, and I rely heavily on this concept. When faced with a particularly difficult or complex decision, the tendency is to defer the decision by appearing to take some action. If one is in possession of all the available or required data, do not ask ‘What is the right decision?’ It is much safer and easier to ask ‘Is this decision a mistake?’ I think of a sailboat going from point A to point B. Point C is in the correct direction but is not the shortest route to B. Point D is the opposite direction. The thing I want to avoid is heading towards point D. Decision C isn’t the best direction to point B, but you can tack to the desirable destination. So, if it isn’t a mistake and don’t be reluctant to set sail to point C and reassess when you arrive. Therefore, install metrics that can be addressed along the way to make sure you are making progress to Point B (Fig. 2).

\[\text{Bricks, mortar and people} \]

Obviously, the magnitudes of the type of decisions that must be made vary widely from the relatively mundane day to day, to those on which our future may depend. If the issue has to do with structure or process, I found decision making to be quite easy. Again, think through the pros and cons and then decide. If the decision does not involve building a structure, capital outlay or hiring a person or several
people, then apply the best understanding of the data and decide. If it doesn’t work out, then change. You aren’t leveraged by being stuck with a costly mistake of a physical structure or excessive staff.

If it’s inevitable, get there first – if this can be safely done

One lesson I learned as a resident was to stay one or two waves behind new technology – ‘let others work out the bugs’. While in general this is good advice when assessing new technology, sometimes it is wise to get there first. An example is that Mayo was, to my knowledge, the first institution to start a total joint registry (in March 1969). This has proven invaluable as, with over 1,000 articles in the peer-reviewed literature, it has, to a great extent, defined our department. In August 2010 we entered the 100,000th patient into our database. On the other hand, one would question whether we should be the first to acquire and transition to electronic medical records. Easy answer. No!

Metrics

Metrics were briefly mentioned above when discussing the ‘plan’. The requirement of accurate metrics is essential for success. In this I revert back to my NASA experience. It was all about the data. While there was some value placed in what we thought, most value was placed on what the data said; certainly the astronauts were of this persuasion. It is hard for me to imagine a decision for which one does not want to know, for sure, whether it was right or at least not wrong. By the same token the data provide objective evidence that we are ‘on plan’.

The impediments to execution (Table 5)

With time one comes to realize several basic realities that can compromise decision making. These may be considered more like roadblocks than potholes along the way. If these few and simple realities are not appreciated and managed, considerable difficulty may be encountered to adjust and maintain the flexibility required for success.

Things change

The Greek philosopher Heraclitus stated in 500BC: ‘The only thing permanent is change.’ One must constantly scan the horizon of inevitable change to avoid continuing down what may have initially been the right but is now the wrong path.

There is always something

A bit of philosophy from Roseann Rosannadanna of ‘Saturday Night Live’. The best laid plans. . . Events out of our control can effectively destroy what may have been an excellent strategic plan or initiative. Covid-19; 9/11 – nothing more needs to be said. The solution? Quick recognition and the ability to pivot in the necessary direction, or at least avoid the wrong direction (Fig. 2).

You can only do so much

There are some challenges that simply cannot end well. Recognize this reality as soon as possible and walk, or run, away. You can only charge at so many windmills and you don’t have the time to charge at too many of the wrong ones. Know when to stop.

Start and stop

Here we are getting into some fine detail. But sometimes it takes a while to ‘get into the problem’ and time to wrap up the activity. If this is the case, I do not entertain tackling an issue when the time available is too limited to make progress and is consumed by the ramp up and wrap up phases. I try to match the time to the project and avoiding ‘touching it more than once’.

Time. Doubling down

The importance of managing time has been expressed throughout: energy, discipline, focus, delegation and prioritization. I will now close by explaining my secret weapon: The Pareto Principle – 80/20.

The Pareto Principle

As important as is prioritization, effectively applying the Pareto Principle was for me the most valuable of strategies. In 1896 the Italian economist Vilfredo Pareto, while at the University of Lausanne, stated that 80% of Italian land was owned by 20% of the population. Today the 80/20 rule has several applications; for me it is a formula to optimize productivity. If I can get 80% of the answer to a problem with 20% of the effort and if the 80% is enough to make a decision that isn’t wrong, then I consider the problem solved, the decision is made and we move to the next issue. In this way one can solve five problems compared to one if the solution to the problem is deferred until 100% of the data are in (Fig. 3).

Summary

To summarize, the success of a leader first depends on the task at hand and the appropriate match of the task and talent. Among the numerous personal features of a leader, integrity and fairness must be first and foremost. A trait rarely, if ever, mentioned is that of selflessness; the leader
is the servant of the department or enterprise. Expectations must be matched by resources, the most important of which is the people. Pick the best and do not feel threatened by their skills. The style of leadership requires insight of the internal and external environment, recognizing the impediments and being willing to make decisions that ‘are not wrong’. Constantly scan the horizon for change and trends that will influence your direction and success, and pivot as necessary, if you are able. Finally, to be as successful as possible, one must recognize ‘time is the currency of the realm’. Manage your time wisely.

**Fig. 3** Schematic applying the Pareto Principle to demonstrate that if 80% of data are sufficient to make a decision that isn’t a mistake, one can complete five projects with the same time and effort as in ‘Project 1’, which requires 100% data input.

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