

WICKED & WISE

How to Solve the
World's Toughest Problems

ALAN WATKINS & KEN WILBER

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We would like to dedicate this book to all those men and women around the world who look beyond their own needs and what they might want in life and serve a greater purpose than themselves. The people who can see that all of the issues we face, even problems within their own family, are our problems not “yours” or “mine”. Such a stance reveals a deep understanding of the fact that we are not separate from each other and solving the world’s toughest problems will need all of us.



Contents

<i>Testimonials</i>	<i>ix</i>
<i>Acknowledgements</i>	<i>xi</i>
<i>Preface</i>	<i>xiii</i>

Part One: **What Makes Wicked Problems Wicked** **1**

A Brief History of Wicked Problems	4
Escalating Complexity	7
Datification and Technological Advance	8
Confused Definitions	11
Definition of a Wicked Problem for the 21st Century	15
Multi-Dimensional	17
Multiple Stakeholders	29
Multiple Causes	35
Multiple Symptoms	37
Multiple Solutions	41
Constantly Evolving	44
Correct Diagnosis	51
Wicked Problems require Wicked Solutions	53

Part Two:
Wicked Problems Need Wise Answers 57

What is An Integral Frame?	60
Quadrants	67
Levels	74
Lines	89
States	96
Types	98
The Application of an Integral Approach to Wicked Problems	99
Coherence	101
Coherence: The Big Picture	103
Physiological Coherence Unpacked	105
Integral Coherence	118

Part Three:
Climate Change 123

Multi-Dimensionality of Climate Change	128
The 'I' Dimension	128
The 'We' Dimension	130
The 'It' Dimension	138
Multiple Stakeholders of Climate Change	142
Planetary Sensitivity by Stakeholder Group	146
Government	149
NGOs	152
Business	153
Individuals	157
Scientist /Experts	160
Multiple Causes of Climate Change	165
What problem?	166

Natural Phenomenon	167
Human Causes	170
Multiple Symptoms of Climate Change	175
Extreme weather events	176
Rising sea level, ocean warming and acidification	178
Shrinking ice sheets and decreased snow cover	179
Increased disease	181
Multiple Solutions for Climate Change	182
New energy technologies and innovations	183
Reduce the population	193
Change human behaviour	195
Increased corporate responsibility	197
Legislation and evolved ethics	202
Climate Change is Constantly Evolving	204
Summary	206

Part Four: **The Wicked Solution** **209**

Map the Problem	213
Map the Network	213
Network Analysis	216
Map the Key Stakeholders	230
Key Stakeholder Dimensionality	231
Key Stakeholder Engagement	232
Existing Stakeholder Relationships	236
Engage the Key Stakeholders	237
Involve an Integrally Coherent Facilitator	240
Facilitating the shared space	241
Other Possible Integral Elements	247
Concluding Remarks	253

Epilogue 257

Appendices 260

Appendix 1: Political Dimensions of Climate Change 260

Appendix 2: Economic Dimensions of Climate Change 266

Appendix 3: Sociological Dimensions of Climate
Change 275

Appendix 4: Technological Dimensions of Climate
Change 283

Appendix 5: Legal Dimensions of Climate Change 287

Appendix 6: Environmental Dimensions of Climate
Change 291

Biographies 294

Index 297

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In addition to Ken I would also like to acknowledge my editor Karen McCreddie. Karen and I have established a brilliant relationship that has enabled us to land my ideas, which are

Wicked & Wise

often a bit vague and sometimes complex in their construction, and she helps do this rapidly without losing intention or tone. I can no longer imagine doing a book without Karen's invaluable support. Not only has she been vital in unravelling some of the concepts that I wrestle with but we are able to laugh about the process too which keeps us both sane. Her ability to find a piece of research that I thought I read years ago is incredible, or better still come up with a more recent example that I had not even noticed. Thank you Karen and buckle up we have plenty more work to do.

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is no evolution in the debate. There is no wisdom to match the wickedness of the problems we face.

Of course I would like to thank my family. My beautiful wife Sarah has, as usual, picked up so much of the work that writing this book has created in other areas of my life. Without that I could never have done this. Thank you for supporting me personally and being prepared to support the purpose of this book and what I hope it can achieve. I am truly blessed to have you alongside me asking, challenging, debating, encouraging, smiling and loving me. You are the centre of my world. Also thanks to my wonderful boys, Jack, Sam Joe and Charlie who make me so proud to be a father and give me hope that it is possible to change the future if we have enough boys to become thoughtful sensitive, compassionate men who are interested in all of us not just some of us.

Finally, thank you the reader. For without readers there are no authors. I hope you can find something in these pages that is of use to you on your journey. I hope it may encourage you to think about our future together amongst the wicked challenges we face and maybe embrace the wisdom we shared so we can all live more effectively together on this beautiful planet we call home.

Alan Watkins 2015

Preface

When Alan first asked me to co-author this book with him, my first inclination (although I truly adore Alan) was to decline—as I have almost always done with dozens of similar offers over several decades. It’s not that I’m anti-social or don’t play well with others; it’s simply that, over some 5 decades of writing, I have ended up, for better or worse, creating a “system”—you can take certified courses, seminars, and trainings in it; there are even graduate degrees in the darn thing, and over 60 disciplines have been reinterpreted using its “Integral Meta-Theory” Framework—and this means there are actually “true” and “false” answers to test questions on it. In other words, although I like to think I am widely open to any and all new views and perspectives, when applying “my” work, there is a fair amount of “kosher” material that—unless you’re introducing a new idea—has to be followed “correctly” if it has my name on it.

This makes serious coauthoring a rather narrowly governed (and therefore tricky) endeavor; not only you, but your partner, have to deeply understand the “system” and apply it in a fairly kosher fashion if it’s going to pass muster with these requirements. So at first I very politely tended to avoid the issue, and genuinely offered to do a truly sincere Foreword. But Alan and I were happily working together on a major project at the time (still are),

in constant contact, and so he would occasionally continue to bring the issue up. I finally explained the necessity to stick to the “kosher system” requirement, and Alan didn’t hesitate saying that would not be a problem at all. He knew my stuff very well, and he (and his company, Complete Coherence) was starting a series of books based in part on this Integral Framework as a guiding organizational scaffold (along with, of course, a lot of their own significantly new contributions). He wanted the first book to outline the basic principles of the Integral Framework, and to do so by applying it to a genuine, widespread, and serious problem in today’s world—namely, “wicked problems.” And his point was that wicked problems haven’t really been solved yet because they don’t have a model complex enough (yet also elegant and simple enough) to cover all the issues enfolded in wicked problems. He genuinely felt—as do I—that Integral was exactly the model that could do this—as he put it, “Wicked problems require wicked solutions”—and the Integral Framework was about as wicked (complex and comprehensive) as you could get. So with that assurance—keeping whatever we said within the “Integral kosher” requirement—we jumped into the project with much excitement and enthusiasm. I don’t want to get pathetically involved in some sort of braggadocio here, but we were both convinced that the Integral Framework really could go farther than any other efforts we had seen to start to alleviate, possibly even solve, the world’s major wicked problems. (Of course, Integral has numerous other applications, but this is the one this book would focus on.)

With wonderful help from Karen McCreadie, we jumped into the project with real enthusiasm and I can only say “joy.” With Alan’s extensive and brilliant career in academic medicine and business consulting, and my working to make sure our contributions were “Integral kosher,” the whole project came together with extraordinary ease and brightness. I think I speak for both of us when I say we are delighted with how the book turned out. It does demonstrate, my critics have so far agreed, that the enormously complex nature of wicked problems—a complexity

Wicked & Wise

that has prevented any one (or several) models or approaches from thus far being able to get a comprehensive handle on all of the major issues enwrapped in the wicked problem, thus so far failing to adequately address them—but here is fully matched by the comprehensive, inclusive, all-embracing nature of the Integral Meta-Model itself (again, with its enormously increased complexity shaking down into an enormously workable simplicity)—“a wicked problem matched for the first time by an equally wicked Framework,” and thus covering all of the crucial bases and hence providing a genuinely possible solution to the complex mess.

If you find this approach usable and effective, you might want to keep an eye out for the rest of the *Wicked and Wise* book series published by Urbane (which I will be participating in), as well as any of my own books (some 25 books translated into upwards of 30 foreign languages—just hit google for “Integral Theory” and take it from there.) The hope of both Alan and myself is that by using a more expanded, more inclusive “Integral Coherence” model, a great range of new areas, dimensions, methods, fields, and approaches will be made available to you for a more comprehensive approach to whatever problems you might be facing—from the simplest to the most complex and wicked. We have certainly found this Integral Coherence approach enormously useful and effective, and we can only hope that you find this approach equally compelling. With all good wishes....

Ken Wilber

Part 1

What Makes Wicked Problems Wicked?

By now we are all beginning to realize that one of the most intractable problems is that of defining problems.

- Rittel & Webber

Wicked & Wise

A few years ago I, (AW) was talking to the top 100 executives in one of the UK's largest public sector companies about the nature of change, more specifically cultural change. I was attempting to explain the driving forces that determine success or disable change initiatives. A guy sitting at one of the tables caught my eye with an intense stare, and he clearly had something to share so I invited him to speak. 'I've been with this company for thirty-one years,' he said. 'I have seen five 'cultural transformation' programmes come and go, and I can tell you from first-hand experience that the culture has not changed one inch.'

Many of us could probably tell a similar story. We have certainly seen political leaders sweep into office promising much and delivering little. We may have experienced business leaders describing the nature of the changes they plan to implement, only for things to remain pretty much the same. Of course these occurrences are not just confined to politics or business – they exist in all areas of life. However, they are certainly not a sign of failure or lack of authenticity, and they should not cause us to lose faith or stop trusting others.

But they may cause us to wonder why so many problems we hear about never get fixed and remain stubbornly unresolved. We often listen to the same old issues being talked about, sometimes for years. Occasionally there may be some small improvements, but more often than not, such changes reside in the small hamlet of *Window Dressing* on the outskirts of *Wishful Thinking* and a long way from the metropolis of *Real Change*.

There's an interesting paradox here. While some things never seem to change, we are living at a time of incredible change in the world. In fact it is now widely acknowledged that the world is speeding up at an astonishing rate and the speed of that change has itself changed - the exponential curve has become

What Makes Wicked Problems Wicked?

exponential and knowledge is doubling every 13 months or so.¹ Why is it that given this accelerating pace of change in the world, some things seem completely resistant to change?

Some of these intractable problems are large and seem completely insoluble, such as Middle Eastern conflict, human trafficking, poverty or climate change. These big issues transcend national borders and touch many parts of society. Other problems are more national but exist in many countries: corruption; educational systems that fail too many children; increasingly expensive non-sustainable health care systems; too few women in the C-suite or gender inequality. This suggests that intractable problems are not just defined by scale. Some apparently insoluble problems occur at a company level – after thirty-one years ‘the culture hasn’t changed one inch’. Some endemic issues occur at an even more personal level: ‘Why are there no decent men/women anymore?’ or ‘Why can’t I find a quality date on a Saturday night?’

Despite living at a time of great change, when we are faced with so many important problems that never seem to alter, most of us just shrug our shoulders with an air of resignation, saying ‘That’s life I suppose’. Or we may proffer the docile sister of resignation – namely, surrender – with a ‘That’s just the way it is’. But is this true? Is it just the way it is? Could the problems we currently perceive as completely intractable be solved? Are we doomed to suffer the perennial constraints of intractability? Is there any hope of meaningful progress on these problems in our lifetime? The simple answer is ‘Yes’ and this book will explain why and how.

Which brings us back to my response to that public sector executive – ‘You are absolutely right,’ I said. ‘Most of the time there is no real progress on some of these types of problems – mainly because we don’t understand the nature of the problem. And if

¹ Schilling DR (2013) ‘Knowledge doubling every 12 months, soon to be every 12 hours’, Industry Tap <http://www.industrytap.com/knowledge-doubling-every-12-months-soon-to-be-every-12-hours/3950>

Wicked & Wise

we don't understand the problem then there can be no progress; how could there be? So if we are stuck in 'cultural confusion' and we really don't understand what culture is, how it changes over time, and how it differs from values, beliefs, attitudes, behaviour, mythology and a whole host of other concepts, then how can we possibly hope to change it?'

So 'the problem' is not really the problem – the real problem is our lack of understanding about the problem. To paraphrase Einstein: We can't solve problems with the same level of thinking that created the problems – we need a new level of thinking. The first step to bringing a new level of understanding to the nature of these complex issues is to dissect the features of extremely complex, difficult, or 'wicked problems'.

A Brief History of Wicked Problems

The term 'wicked problem' was originally used in a social planning context and is attributed to Professor Horst W J Rittel, who discussed the idea in seminars as early as 1967. He would talk of the difference between a 'tame' solvable problem and a 'wicked' intractable problem that was difficult or impossible to solve. The term 'wicked' was used not to suggest that the problem was somehow evil, although the consequences of these challenges can certainly appear evil, but rather because our knowledge and appreciation of the problem is always incomplete; the nature of the problem can appear contradictory and it's constantly changing.

It wasn't until 1973 that Rittel, then Professor of Science of Design at the University of California, Berkley, along with Melvin M Webber, Professor of City Planning at the same University, formalised the concept of wicked problems. Their argument summed up in their paper's Abstract stated, 'The search for scientific bases for confronting problems of social policy is bound to fail, because of the nature of these problems. They

What Makes Wicked Problems Wicked?

are 'wicked' problems, whereas science has developed to deal with 'tame' problems. Policy problems cannot be definitively described. Moreover, in a pluralistic society, there is nothing like the undisputable public good; there is no objective definition of equity; policies that respond to social problems cannot be meaningfully correct or false; and it makes no sense to talk about 'optimal solutions' to social problems unless severe qualifications are imposed first. Even worse, there are no 'solutions' in the sense of definitive and objective answers.'²

Rittel and Webber presented a ten point list of 'distinguishing properties of planning-type' wicked problems. In simplified terms the ten properties are:

1. There is no definitive formulation of a wicked problem.
2. Wicked problems have no end point where the problem is considered 'fixed'.
3. It's not possible to identify all the possible solutions to a wicked problem.
4. Wicked problems have no binary right/wrong solution, only better or worse.
5. Every solution is a one-shot operation that can't be undone or redone.
6. There is no absolute test to measure the success of the solution.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a symptom of another problem.
9. Wicked problems can be explained in many ways.
10. Due to the consequences of each attempted solution, social planners can't be wrong.

² Rittel, H W J, M M. Webber (1973). 'Dilemmas in General Theory of Planning', *Policy Sciences*, vol 4: 155–169. http://www.uctc.net/mwebber/Rittel+Webber+Dilemmas+General_Theory_of_Planning.pdf

Wicked & Wise

Rittel and Webber did a phenomenal job at helping us to appreciate and understand wicked problems so that we could begin a dialogue about how best to solve them. Their focus was on the wicked problems that existed in social planning and public policy, such as urban renewal, roadway construction or curriculum design. Of course wicked problems exist outside these thorny areas too. In recognition of this fact Dr Jeff Conklin, Director of CogNexus Institute and specialist in the fields of hypertext and collaborative technology research, sought to simplify and condense these definitions so they would apply to areas inside and outside planning and policy.

Effectively Conklin removed the characteristic that referred directly to planning and expanded the context to make the definitions more meaningful to other types of wicked problems. Conklin also posited that the wickedness of the problems we face was multiplied by social complexity (number and diversity of stakeholders) and fragmentation (the fact that those stakeholders increasingly see themselves as more separate than united) that made finding a genuine solution even harder³.

One of the implications that both Rittel *and* Webber and Conklin agree on is that wicked problems are inherently wicked because they deal with societal problems, that is, problems created and exacerbated by people. The former stating, 'As distinguishable from problems in the natural sciences, which are definable and separable and may have solutions that are findable, the problems of governmental planning – especially those of social or policy planning – are ill-defined; and they rely upon elusive political judgement for resolution.' They were adamant that wicked problems could never be solved but only re-solved over and over again.

And frankly if that was true in 1973 when Rittel and Webber wrote their seminal paper, then it is exponentially true today.

³ Conklin, J. (2005) *Dialogue Mapping: Building Shared Understanding of Wicked Problem*, London: John Wiley & Sons.

Escalating Complexity

If it is people that amplify the wickedness of a problem, either through the sheer numbers involved or the diversity of individuals in terms of culture, opinions, values, beliefs, judgements, and so on, then as the number of people on the planet increases and the complexity of human expression increases, it will become even tougher to find answers to wicked problems.

In 1973, the global population was just under 4 billion; today it's almost double that! The increased challenge of population growth doesn't just come from a simple escalation in the numbers of people on the planet, but from the increase in complexity within our societies that such numbers create. These two factors amplify the effect of each other.

When our grandparents or even our parents were the age many of us are right now, the world they lived in was massively different to the one we experience today.

Back in the early 1980s, futurist and inventor Buckminster Fuller proposed 'the knowledge doubling curve'⁴. Fuller noticed that the more knowledge we accumulated, the faster we created more knowledge. Prior to 1900, the sum total of human knowledge doubled every one hundred years or so. By the end of the Second World War, the complete knowledge of humankind doubled every 25 years. Today knowledge doubles, on average, every 13 months⁵. Such is the rate of social and technological complexity that it's already been predicted that knowledge will eventually double in a matter of hours - 11 to be exact.⁶

⁴ Fuller, R.B. (1981) *Critical Path*, Gordonville: St Martins Press.

⁵ Schilling, D.R. (2013) 'Knowledge doubling every 12 months, soon to be every 12 hours', Industry Tap. <http://www.industrytap.com/knowledge-doubling-every-12-months-soon-to-be-every-12-hours/3950>

⁶ IBM Global Technology Services (2006) 'The Toxic Terabyte: How data dumping threatens business efficiency'.

Wicked & Wise

That's a staggering expansion of knowledge that is changing the world. What's perhaps even more interesting is that when Fuller first hypothesised about the knowledge doubling curve, there was no Internet, no worldwide web, no smart phones, no PCs or laptop computers, no satellite TV, no digital technology, no smart sensors, limited artificial intelligence and no social media. Considering the technological innovations of the last decade alone, it's easy to see how this trend is so transformational, for better or worse. In most modern companies we are already drowning in data. Data is no longer just held as words, numbers or images and archived. It is being digitised and datafied for on-going collection and analysis.

Most business leaders are already acutely aware that this data is valuable and that data is the new currency in a 'Big Data' world; but many have no idea how to use it, harness it, or protect it. It's overwhelming.

The complete and accurate definition of a wicked problem is crucial if we want to find the best solution; and yet the data, information and knowledge that now exist around the various wicked problems we face are vast. We could argue that given the amount and complexity of the data, we will never fully appreciate the parameters of the wicked problems. This is certainly true if we keep applying our current level of thinking to the wicked problems we face. Einstein was right: we need a new level of thinking and a new way of knowing.

Datification and Technological Advance

The data and knowledge explosion described by Fuller has been accelerated by a massive increase in technological capability and storage. For years, even as knowledge was doubling quietly in the background, there was nowhere to put the expanding volumes of data, no way of storing it; and considering the fairly rudimentary and unsophisticated ways of analyzing it, not much point worrying about it anyway.

What Makes Wicked Problems Wicked?

Today, however, everything we do, say, write, visit or buy is leaving a digital data trail, or soon will, and all that data can now be stored and analysed.

There are now more objects and appliances collecting more types of data than people on the planet, and they are increasingly being connected together by the Internet of Things (IoT). The IoT is best described as a network of connecting and communicating wired or wireless devices, and it is Moore's Law that makes this innovation possible. In 1970s Gordon Moore, one of the inventors of integrated circuits, noticed that it was possible to squeeze twice as many transistors on an integrated circuit every 24 months. Moore's law therefore explains this exponential growth rate in the advance in technology. And it is this exponential growth that has changed just about every aspect of our lives, and it has made the Internet of Things possible.

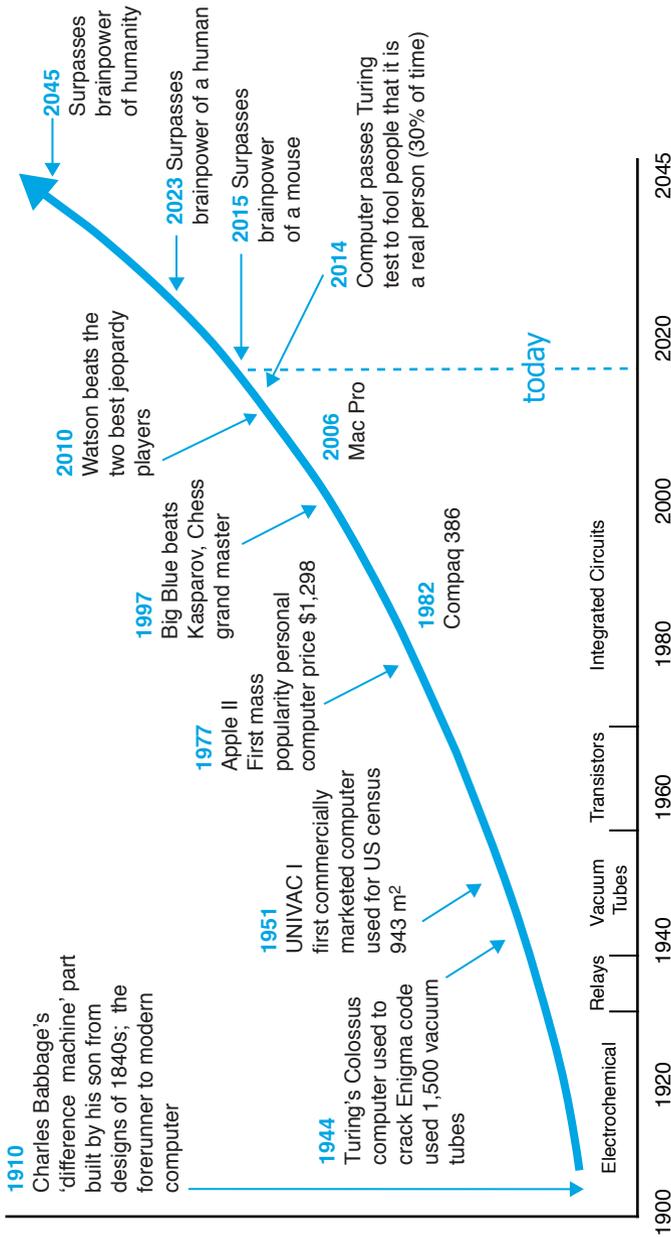
US inventor and futurist Ray Kurzweil points out that there will be 1000 times more technological change in the 21st century than there was in the 20th century.⁷ According to Kurzweil, even Moore's Law will be obsolete by 2019 because the rate of advancement will be even more rapid than the exponential growth it currently describes (Figure 1.1).

In his seminal essay *The Law of Accelerating Returns*, Kurzweil states, 'There's even exponential growth in the rate of exponential growth. Within a few decades, machine intelligence will surpass human intelligence, leading to The Singularity — technological change so rapid and profound it represents a rupture in the fabric of human history.'

Of course this rapid change has far reaching implications for virtually everyone on the planet. Nothing is static. Everything is fluid and dynamic. The speed, size and scope of change is literally creating, collapsing and recreating the playing field faster

⁷ Kurzweil, Ray (2013). *How to create a mind: The secret of human thought revealed*, New York: Penguin Books.

Figure 1.1: The accelerating pace of change



What Makes Wicked Problems Wicked?

than ever before. Which means that getting a workable stable handle on what the problem is today may render that same definition obsolete tomorrow!

Clearly this rapid rise in complexity is amplifying the wicked problems we already face. This is fuelling the urgent need to find a workable template that we can apply. And the template itself must be able to evolve with the rapid evolution of the problem. If traditionally we have been unable to define the wicked problems, then increasing complexity is going to exacerbate that challenge, not improve it. If wicked problems already have no clear end point, and the rate of change in the environment in which the solutions are implemented becomes even faster than it is now, then the risk is that the solutions we may come up with could be obsolete before they are even implemented!

The truth is in business, leaders are already deeply concerned that they and their people don't have the skills necessary to navigate normal business challenges – never mind turn their attention to the accumulating laundry list of wicked problems the world now faces. The digital revolution is over. There is no going back, so there is no way that we can somehow batten down the hatches and ride out this crazy VUCA phase (volatile, uncertain, complex and ambiguous). Despite how quickly things are changing in business and how volatile and complex the issues we face are now, it may never be this slow again.⁸

Confused Definitions

Rittel, Webber and Conklin and others have certainly helped us to grapple with the serious challenges we need to solve. But if you type 'Wicked Problems' into an online search engine, you will see a range of additional diagrams and definitions that simply

⁸ Finkelstein, S. (2004). *Why smart executives fail: And what you can learn from their mistakes*. New York: Portfolio Trade, an imprint of Penguin Group.

Wicked & Wise

appear to suit the author's purpose at the time. This confusion is not helpful. In fact, poor definition may be the single biggest obstacle we face in tackling wicked problems effectively.

In their paper Rittel and Webber stated, 'By now we are all beginning to realise that one of the most intractable problems is that of defining problems (of knowing what distinguishes an observed condition from a desired condition) and of locating problems (finding where in the complex causal networks the trouble really lies). In turn, and equally intractable, is the problem of identifying the actions that might effectively narrow the gap between what is and what ought to be. The formulation of a wicked problem is the problem.'⁹ Conklin too appreciated this fact when he said, 'Part of the pain is a misunderstanding of the nature of the problems at hand.'¹⁰

Figuring out how to actually define the wicked problems we must address is actually the active ingredient in the wickedness. While this point may seem pedantic or nothing more than a semantic issue, it is not. Figuring out how to accurately define wicked problems is actually the central issue and where most of the initial work is required in solving them.

The key question is, 'Do any of these definitions get us closer to a definitive way that we could solve or perhaps re-solve wicked problems?'

Considering how many wicked problems we now face, we can only assume that any progress we may have already made is simply not enough. The reality is that the definition of a wicked problem is itself a wicked problem!

Which brings us back to the point we were making at the start

⁹ Rittel, H. W. J., Webber, M. M. (1973). 'Dilemmas in General Theory of Planning' *Policy Sciences*, vol 4, pp. 55–169. http://www.uctc.net/mwebber/Rittel+Webber+Dilemmas+General_Theory_of_Planning.pdf

¹⁰ Conklin, J. (2005) *Dialogue Mapping: Building Shared Understanding of Wicked Problem*, London: John Wiley & Sons.

What Makes Wicked Problems Wicked?

of this chapter – the reason we can't fix wicked problems is largely because we don't understand the problem in the first place. Sure wicked problems have a set of characteristics that can help us to identify them; there may be dispute over what those characteristics are and they may change depending on the problem being discussed, but the fact remains that if we can't map all the contributing, interconnected factors that make the wicked problem wicked, then what we *don't* know, or are unaware of, will always derail the solution process.

Although Rittel and Webber recognised this fact, the majority of commentary ever since has missed it – the wicked problem isn't really the problem; the real problem is that we don't understand the wicked problems well enough to affect real solutions. The wicked problem isn't climate change; it's that we don't understand climate change or enough people don't understand climate change well enough – if they did we would collectively be taking very different actions than we are to rectify the potentially fatal damage we are doing right now.

The problem isn't gender diversity or a lack of women in business; the problem is we don't understand gender diversity and why that creates a lack of women in business. The problem isn't culture; it's that we don't understand culture. Too often the solutions put forward for dealing with wicked problems, or any problems for that matter, are much too simplistic. In one online diagram on wicked problems, for example, the authors have stated that a wicked problem requires 'behavioural change'. But everything requires behavioural change. Most solutions to most problems require some form of behavioural change. Solving wicked problems requires significantly more than behavioural change, both on an individual and collective level. It requires a change of mind or attitude that underlies behaviour, otherwise the change won't stick and those involved will go back to what they were doing originally. It also requires a change to beliefs – both individually and culturally. Not to mention institutional changes, political changes, social changes – which are all part of the very problem of definition.

Wicked & Wise

So while those who have sought to define a wicked problem have all pointed to the fact that wicked problems are difficult to define, their own attempts to do so have then fallen short. This is one of the reasons that we have failed to move forward, which in fairness is hardly surprising because wicked problems are so difficult to define! The definition of a wicked problem has therefore got an inherent fault line in it that will cause the definition to fail, or often make matters worse and exacerbate the existing failure, or at best keep us trapped in the town of *No Progress*.

What we have therefore sought to do in this book is to stand on the shoulders of those who have gone before us in an effort to make the definition – and therefore the solution – more comprehensive. Our definition is an attempt to be more complete for the simple reason that unless we can adequately define the wicked problems to begin with, our chances of actually solving them are significantly diminished.

Often the definitions used simply reinforce the wickedness. In many cases, this is a direct result of the context the definition is offered in. For example, the original definition was created with planning problems in mind. Clearly some of those definitions do not hold true when they are used to explain wicked problems outside that context. Rittel and Webber talk about a solution being a one-shot operation. In other words, any attempt to solve the problem will have significant consequences that can't be completely undone. So when a new, alternative solution is attempted, it is difficult to know what caused what because the consequences of the previous solution can't be removed. You can't 'reset' the problem back to a starting point and therefore test various solutions in a process of trial and error to find the best one, because each attempt changes the problem and therefore changes the solution and the outcome. Rittel and Webber believed that you can't build a bridge, test its impact and then unbuild the bridge and try something else. But in some cases, outside that planning context, some degree of resetting is possible.

What Makes Wicked Problems Wicked?

What we've done in this chapter therefore is to fold in the best bits of Rittel and Webber's original definition and take a more comprehensive, more inclusive, hopefully more enlightened view which takes the best of their insights – and indeed all the available perspectives, because they all have some value to offer.

At the heart of the 'Integral' mindset, which we will explore in more detail in Chapter Two, is the notion that no one person can be completely right all the time and no one can be completely wrong all the time. If we are to genuinely find workable long lasting solutions to the wicked problems we face then, we must step back to identify the elements that stand up to rigorous scrutiny and everyone agrees on, and then fold those common threads into something Rittel and Webber thought impossible – a definitive criteria that can help us to really understand wicked problems and find appropriate, more inclusive and holistic solutions.

Definition of a Wicked Problem for the Twenty-first Century

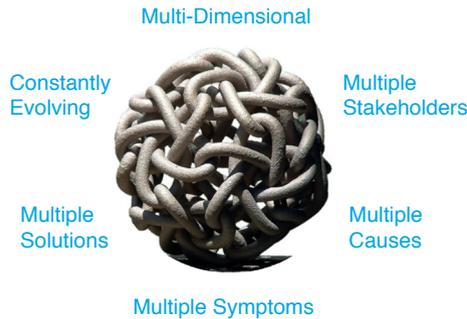
In order to really find a way to solve these intractable issues, we need a definition that can direct our thinking while also being sufficiently structured to provide a framework for exploration that takes all important considerations into account. And that is part of the claim that we are making, and part of how our approach should be judged: does our framework for exploration really 'take all important considerations into account?' Only an approach that truly does can be expected to help us. Only then can we really start to make headway with these issues.

We suggest therefore that a wicked problem has six key properties (Figure 1.2) that must be understood before real progress can be made:

Wicked & Wise

1. A wicked problem is multi-dimensional
2. A wicked problem has multiple stakeholders
3. A wicked problem has multiple causes
4. A wicked problem has multiple symptoms
5. A wicked problem has multiple solutions
6. A wicked problem is constantly evolving

Figure 1.2: Definition of wicked problems



Too often the definition of a wicked problem is just too narrow. And a narrow definition will never solve a challenge that is as wide as an ocean. Equally if the definition becomes too broad or too abstract, it's equally useless. Something Rittel and Webber were clearly aware of when they stated, 'Of course the higher the level of a problem's formulation, the broader and more general it becomes: and the more difficult it becomes to do something about it.'

Seen from this context, it's easier to see why the various solutions to wicked problems have so often failed. When the definition is too narrow, we miss too much of the puzzle; and worse, we don't even realise we missed it because we aren't looking for it. On the other hand, if it's too abstract, it becomes too general and no headway is achieved.

What Makes Wicked Problems Wicked?

To that end we have sought to simplify the definition, while also ensuring it is comprehensive enough to make a genuine difference.

Multi-Dimensional

In truth all problems – wicked and non-wicked alike – are multi-dimensional. The reason it's included here and is the first property of wicked problems is because it is almost exclusively ignored.

Every aspect of human experience and every second of that experience exist or are occurring in more than one dimension (see figure 1.3).

Just take a moment to consider this... As you are reading these words you are having an individual interior experience. Additional thoughts and feeling may be bubbling up to your conscious awareness. For example, you may be thinking, 'What on earth are they on about?' or 'Oh I've got to remember to pick up the dry cleaning tonight, otherwise I'll have no clean shirt for tomorrow.' You may feel confusion or irritated – whatever you

Figure 1.3: Original AQAL model

I (individual interior) Self and consciousness – invisible (i.e. thinking, feeling, emotions & awareness)	IT (individual exterior) Action and System (visible behaviour)
WE (collective interior) Culture and worldview	ITS (collective exterior) Social system and environment

Wicked & Wise

are thinking or feeling as a result of the words on this page – it's a purely individual, interior experience. No one else is privy to what's happening inside you. As such you are experiencing that moment from the subjective interior dimension of 'I' or 'being'.

If you put the book down and go for a run, you move into exterior action. It's still you going for the run, but the experience is now also an exterior experience. Other people can witness you visibly running. In that moment, your experience is probably both individual interior and individual exterior. So you are probably thinking about stuff as you run and you are certainly feeling stuff as your physiology changes with the increased effort of running; plus you can be witnessed by others running around the harbour. Individual exterior is the 'IT' dimension of 'doing'.

If you happen to join up with your running group, you move into the 'WE' dimension of 'relating'. You may talk to your running buddies and share experiences or ask questions, but in that experience you are relating to other individuals. And that is a separate dimension too. As you all stop to rest, you may take in your environment and notice that a huge cruise liner is coming into the harbour. This experience is happening externally whether you are witnessing it or not, but you are also collectively witnessing it and discussing how the ship is going to manage to make the necessary turns, and you are also individually having an internal thought about the ship as it reminds you of one you went on with your family two years ago.

In the same way as the individual can be experienced from within ('I') or from without ('IT'), the group can be experienced from within (as a cultural 'WE') or from without (as a systems 'ITS'). The 'WE' experience is different for each of your running friends; but you all know exactly who is in that circle of friends and who is not in it; who belongs and who doesn't belong. You can't see this 'WE' circle of friendship 'out there' in the exterior world; just as your interior 'I' experience can't be seen running around 'out there' in the objective world. But nobody in the group doubts its

What Makes Wicked Problems Wicked?

existence, or the dimension that it makes up, which we might call 'relating'. Each 'I' in the 'WE group' feels directly related – some stronger, some weaker – to every other 'I' in the group.

And likewise that group can be looked at from its outside. You could actually videotape the entire group as it runs around the harbour. The 'borders' to this group tend to shift, just as the borders to a 'forest' or a 'town' can shift over time. For example, individual members of the running group may come and go, some may run on certain days, others may stop and play golf in the winter. But the group looked at from without – in a dimension we might call 'interacting' – does exactly that: the members interact, in this case, following the rules of the running group. In the forest's case, ecological principles govern its interaction; in the town, political and legal systems, among others, govern the behaviour – the interaction – of the town's members.

So every moment is occurring simultaneously in all three or four dimensions; 'I', 'WE', 'IT', and 'ITS'. And yet for the most part we don't realise that; and frankly, even if we do, we don't really see what the big deal is. Only it is a big deal because this deceptively simple frame, which we'll unpack in more detail in the next chapter, allows us to understand a good deal of the complexity of the modern world, and allows us to see why some of the most intractable wicked problems have become so intractable.

Someone experiencing poverty first-hand in a township in Africa is having a very different internal subjective experience of poverty than someone living in relative luxury in an office in Florida who is seeking to find objective solutions to poverty. The different and often disparate groups involved in coming up with collective interventions have a very different experience again, and much of that difference lies in the multi-dimensional nature of everyday life that we are not really conscious of. So naturally they will offer very different perspectives on what to do about poverty and what the important factors are that need addressing.

Wicked & Wise

All problems, wicked and otherwise, can be viewed from these dimensions – doing, being, subjectively relating, or objectively interacting. When it comes to wicked problems, the common tendency is to almost exclusively focus on the exterior objective dimensions or ‘Right-Hand’ quadrants. In other words, we exclusively look at behaviours (‘IT’) or systems, processes (‘ITS’) in the world of ‘doing’ and objectively interacting. What are people doing about the problem? What systems and structures do we need to put in place? What do people or the planet need to ‘do’? We completely ignore the interior subjective ‘being’ and ‘relating’ dimensions and any changes that will be required in those ‘Left-Hand’ quadrants. This is despite the fact that we already know that very often human relationships and social transactions are at the epicentre of all wicked problems. Wicked problems are social problems. Global warming requires individuals to change what they are ‘doing’ in enough numbers to reverse the damage. But they won’t do that unless their ‘being’ can be changed and they can be connected with enough like-minded individuals through ‘relating’ to push through the change that alters the ‘doing’ and the actual interacting.

Wicked problems exist in a number of very important dimensions. At the very least they exist in the ‘I,’ ‘WE,’ ‘IT,’ and ‘ITS’ dimension – each with its own truths, its own values, its own perspectives, yet all of them incredibly significant. And as we’ll see in this book if we don’t recognise the multi-dimensional nature of wicked problems from the very start, then our attempts to solve them will continue to fail.

We see this happen in business all the time – the leader or executive team will fix the ‘ITS’ (i.e. a business process) but the business still doesn’t work because the ‘WE’ of culture is still broken. Or a business consultant may advocate redundancies to cut costs in the business so that might make the business look better on paper, but if there is then no one to do the actual work then the business will still fail – it will just fail in a slightly different way or on a different dimension. So removing cost may

What Makes Wicked Problems Wicked?

be right for profitability, but because it is a solution that doesn't take the other dimensions of 'I' and 'WE' into account, then we simply create a problem that is potentially even more fatal than the problem the redundancies were designed to solve.

The multi-dimensionality of wicked problems is easier to see if we explore larger scale wicked problems. Take the Ukraine, for example. The country is deeply divided with the west of the country leaning towards the European Union and the east of the country leaning more towards Russia. The current instability and safety issues in the east could be addressed by flooding the eastern Ukrainian cities with pro-Europe security forces from the west. But a dramatic increase in gates, guards and guns will do very little to address the feelings of insecurity and fear of the people in those cities. Viewing security and safety as a purely external problem without addressing the multi-dimensional nature of security and safety means that it may not actually matter how many gates, guards and guns are employed – the people still won't feel secure and safe. You can't solve an interior problem (feeling unsafe and insecure) by employing an exterior solution (gates, guards and guns). And conversely you can't solve an exterior problem by employing an interior solution. If the entire population of Ukraine decided to just ignore the problem and hope it goes away, then nothing gets done and the problem becomes more deeply entrenched.

And here's the kicker – you can't deal with the dimensionality of a problem if you don't even realise the problem has a number of different dimensions to begin with. Plus each one of these four dimensions is affected by global megatrends often described using the PESTLE acronym.

PESTLE

These global megatrends actually affect 'I', 'WE', 'IT' and 'ITS' and yet they are only normally considered in terms of how they impact the latter two exterior dimensions. As we explore the PESTLE elements we've sought to redress this imbalance

Wicked & Wise

and point out some of the interior dimensions to these issues to widen the perspective and counter the typical ‘reductionistic’ approach. The PESTLE elements are:

P = Political

E = Economic

S = Sociological

T = Technological

L = Legal

E = Environmental

This widely used assessment acronym serves two very important purposes. It illustrates the ‘multi-dimensional’ aspect of wicked problems *AND* it highlights the fundamental lack of awareness of anything other than the external dimension. It is this one-dimensional view which is holding us back. Virtually every one of the PESTLE issues is conventionally defined in almost nothing but objective, interactive, systems in the world of ‘ITS.’ Thus ‘sociological’ is specifically not ‘psychological.’ ‘Technology’ deals with the objective, material world of information transfer and communication device – and not with people’s awareness or insights or feelings about information transfer. ‘Legal’ refers to the exterior rules and regulations that have automatic applications to individuals and organisations and nations – and does not explicitly include the topic of morals and ethics per se, or the interior thoughts and considerations that go into particular laws. ‘Economics’ is constantly criticised for only dealing with the exterior material exchanges of goods and services and their representation by items such as money or finance – and leaving out items such as ‘values’ or ‘happiness’ or ‘caring’ or similar interior feelings (leaving them out of, say, how to calculate the GDP, and there are already many economic approaches that explicitly include these interior factors).

If business, politicians, economists, even human rights organisations are using the PESTLE framework to assess their challenges, believing that this framework gives them the whole story, then it’s small wonder we make such little progress! The



What Makes Wicked Problems Wicked?

point is that while each of these major areas – political, economic, sociological, technological, legal, and environmental – are important considerations, they can each be looked at through all four quadrants, and each time we do so we get another, very important perspective on the topic. Part of the problem with wicked problems is that they tend to be approached solely through the Lower-Right quadrant ('ITS'), looking at the collective issue through an objective, materialistic, scientific, systems view. But if we take a problem such as climate change, the conclusion of the vast majority of the scientific community – those who approach all problems almost entirely from the 'ITS', objective, materialistic quadrants – is well over 90 per cent of them believe that climate change is caused by humans and that immediate reduction in CO₂ is recommended.

But nothing gets done, because the change requires that human beings change their hearts and minds – in the 'I' and 'WE' spaces. The multi-dimensionality of the problem – the fact that it exists in several different dimensions – means that all of the significant dimensions need to be addressed simultaneously. We know everything we need to know in the Lower-Right, objective, materialistic quadrant, the 'ITS' systems quadrant – but we are not yet treating 'I' and 'WE' effectively enough to get enough individuals to believe differently enough (in their Upper-Left 'I' dimension) to behave differently (in their Upper-Right 'IT' dimension) and thus, for example, make their opinions known to their political representatives and the companies that they buy their goods and services from. This problem is a wicked problem right at the start – it does not include how it appears and manifests in all four quadrants, and thus no truly comprehensive or inclusive approaches to it have yet been taken – and thus, virtually nothing is being done about it. PESTLE approaches are taken, but only in the Lower-Right quadrant, dealing with the objective, material, systems and structure aspects of the issue, and almost entirely missing the 'I' and 'WE' dimensions that are ultimately responsible for any changes actually happening. And the fact is, we already know a great deal about the growth and



Wicked & Wise

development – and actual stages – that humans go through in both the ‘I’ and ‘WE’ dimensions, information that could be put directly to use in this area – if leaders were simply aware of it. We’ll return to this important topic in the next chapter.

Poverty: A case in point

Nowhere can the importance of a multi-dimensional approach be seen more clearly than with poverty – and how the ‘PESTLE’ approach actually will not work effectively – and often just makes matters worse – unless all of its components are applied in all four quadrants.

So if we consider poverty, there are obviously political factors (‘P’) involved with different political parties believing the root causes lie in different directions. And different parties will often place the major blame for the cause of a problem in different quadrants, instead of seeing that all four quadrants are always involved. Thus, for example, a Conservative or Republican tends to view the cause of poverty as lying in the individual—he or she just doesn’t work hard enough, or doesn’t have a strong enough work ethic, or expects the government to do everything for them. Labour or Democratic believers, on the other hand, tend to see the problem as ‘society’s fault’ – the individual is not to blame – it’s the way they were raised, or poor parenting, or an oppressive society that represses their gender or race or belief or sexual preference. But it’s certainly not the individual’s fault. (So is the fault on the interior or the exterior?)

Likewise, because a Conservative or Republican government tends to believe in the power of the individual, they believe that everyone should stand on their own two feet and government should get out of the way so they can make their own way in the world through enterprise. The inference from this political perspective is that poverty is a choice because the individuals simply don’t want to work hard enough to make their situation better. Conversely a Labour or Democrat government believes in the power of the collective and that we are stronger together

What Makes Wicked Problems Wicked?

helping each other. The implication from this political view is that poverty is something we all need to tackle together and some people are poor through absolutely no fault of their own. Of course both are correct to some extent or another (because all of these quadrants actually exist and are having a real impact), and the reality is that a combination of both of those perspectives and more is required to really eradicate poverty. Having all of these dimensions – ‘I’, ‘WE’, ‘IT’ and ‘ITS’ – involved, means that all of them need to be addressed. This is part of the reason why poverty has never been eradicated because political parties can’t agree on the root causes or the solutions. This is often exacerbated by the nature of democracy itself. As the balance of power flips from one view to the other, many of the actions taken by one ruling party end up being undone when the opposition party comes to power and the new government then sets off in search of a solution in the opposite direction. Such political lurching can itself become the problem. Rather than politicians helping, they often inadvertently worsen the issues that some of them went into politics to resolve, largely because they aren’t taking a comprehensive or inclusive enough perspective to begin with.

Poverty also has macroeconomic dimensions (‘E’), and this is usually closely linked to political perspective. For example, more left-wing political parties may increase the welfare state and taxes on the working population or on business to pay for increased social provision, while the more right-wing parties usually seek to reduce the welfare state and taxes on business so that there is more incentive to make more money. Of course, neither of these solutions works alone because the problem is more complicated – and at either end of the political spectrum people are gaming the system. So at one end we have people who don’t want to work or choose not to work because they can make more money on social benefits than they can going out to work, and at the other end we have huge corporate giants spending millions in shell companies and off-shore accounting creativity to avoid paying any tax at all if they can.

Wicked & Wise

Of course poverty also has a sociological impact ('S') as the rich get richer and the poor get poorer; divisions emerge in society and a 'them' versus 'us' culture makes any real collaboration even harder.

The challenge of poverty is also intimately linked with low educational attainment. This is where 'I' and 'WE' dimensions can really swing into play. Many developed countries like to hold themselves up as examples of equal opportunity, but if you can buy a better education many parents will. In a world that is becoming increasingly digital, the better schools have better technology and better technology training, so the risk is that the impoverished communities become increasingly left behind and the poverty gap widens still further. And this is not solved simply by providing more computers for poor neighbourhoods, although that undoubtedly can help. The ability to access technology and take advantage of the new digital world requires great teaching resources. Fortunately, the trend for more and more teaching to be provided for free over the Internet can itself start to make a real impact. The Khan Academy is one such shining example of the democratisation of high quality education around the world.

11

Technology ('T') has dramatically increased the degree of social connectivity in society. At last count, for example, Facebook had 1.2 billion users; and that does not include anyone in China where Renren reports that it currently has 250 million users. File sharing, social connectivity and the provision of free teaching on the web is also having an impact on legal systems globally. When we are increasingly connected, the very nature of defensible 'intellectual property' becomes increasingly problematic. Aggressive IP protectionism used to be the way that many rich multinational giants generated profits and kept others out of the market and in relative poverty. Simply by flexing their greater economic muscle, they could effectively shut out any new competitors through

¹¹ <https://www.khanacademy.org/>

What Makes Wicked Problems Wicked?

litigious attacks and the defence of their ‘property’. Today, the world is changing so quickly, first mover advantage is marginal at best because competitors can catch up or even leapfrog your product offering very rapidly. Others will simply innovate around your ‘intellectual property’ and by the time you get to court the relevance of your position may have diminished anyway.

This type of strategic legal IP defence (the ‘L’ in PESTLE) that we witnessed in the music industry and are still seeing in the publishing industry is increasingly pointless and a waste of resources, because the market that’s being so vigorously defended is moving underfoot, or in some cases disappearing all together.

In this brave new world, brand and reputation is increasingly the only thing that can genuinely keep you ahead of your competitors. When the world is changing so quickly, it simply doesn’t make sense to defend a ‘set’ position for too long. In the movie *Pirates of Silicon Valley* (1999), there is a scene where Jobs and Bill Gates are arguing and Gates gets the better of the discussion. As Gates walks out, Jobs whispers, ‘But we still have a better product,’ and Gates stops, turns around, and says, ‘You still don’t get it. That doesn’t matter.’ In other words, it’s not just the degree of quality in the Right Hand material artefacts being sold, but the perception and desire in the Left Hand ‘WE’ market that determines the final outcome. All of the quadrants are important – and that’s the major issue.

And finally some have argued persuasively that a great deal of the poverty trap is down to national environmental conditions (‘E’)¹²—both the natural environment and the institutional social environment. Climatic conditions and national culture can often impair all attempts to lift developing nations out of poverty.

No wonder wicked problems are so difficult to define – the

¹² Harrison P (1993) *Inside the Third World: An Anatomy of Poverty*, London: Penguin Books.

Wicked & Wise

definition will change depending on each dimension and the perspective of every single stakeholder. Plus, there are actually 24 real and significant dimensions at play – the six PESTLE elements as experienced in each of the four quadrants! Tragically most approaches focus on three or four dimensions which at most leaves the remaining ‘active’ but unappreciated dimensions to blindside progress. The really ‘wicked’ part of these issues is our almost complete ignorance of their total and real causative elements

There is also absolutely no way to definitively formulate the problem or the solution because the answer, as typically given, is probably only going to address a quite small number of favoured dimensions with little regard to the repercussions of that solution in other areas or other dimensions. On that basis, no solution is ever ‘right’; rather it is simply the ‘most workable’ or ‘best at this time’, because nothing more concrete is even possible when you bring a group of disparate interests together to hit a moving target. But one thing is certain: the more perspectives you take into account, which certainly includes ‘I,’ ‘WE,’ ‘IT,’ and ‘ITS’, then the better your ‘best at this time’ solution is likely to be because it gives you access to different views, different truths, different values, and different motivations that all need to be fully addressed. Conversely, the more perspectives you ignore or leave out, the worse your ‘best at this time’ solution is likely to be.

Taking a multi-dimensional approach can profoundly affect wicked problems. For example this approach is used by Foundation Paraguay – consistently voted as one of the top two or three organisations in the world for ending poverty most effectively.¹³ Founder Martin Burt, former Chief of Staff to the President of Paraguay, started looking at poverty; and the first thing he noticed in all of the existing programs around the world was how poorly – how narrowly – they defined poverty. Most of them, again,

¹³ <http://www.fundacionparaguaya.org.py/?lang=en>

What Makes Wicked Problems Wicked?

were focused almost exclusively on the 'ITS' quadrant in some version of PESTLE. So Burt, explicitly following the model we will present in the next chapter, very carefully gathered evidence of what poverty looks like *in all four quadrants*. This gave him, not just the standard half-dozen to a dozen PESTLE type items, but 50 elements; each of these was then further explored from all four views. The result was 200 'characteristics' of poverty. He then searched extensively for programs and systems that showed some capacity to handle all 200 characteristics to create a total interwoven approach. By employing this more inclusive and comprehensive approach Burt almost immediately started gaining the success that has led to Foundation Paraguay's recognition in the field. This approach to the wicked problem of poverty worked where so many failed precisely because a more integral, multi-dimensional approach was taken.

Multiple Stakeholders

Not only are wicked problems multi-dimensional, but they involve multiple stakeholders – each of which are multi-dimensional in their own right.

Wicked problems are wicked mainly because they involve people – usually a lot of people. Clearly there are a lot of people affected by global warming, poor education or poverty, and there are a lot of people trying to find solutions to these intractable challenges. And people are notoriously difficult to manage or direct. Everyone is different. Each person sees the world in their own unique way based on where they were brought up, who brought them up, what culture they live in, what language they speak, their religious and political convictions, and so forth. People have different values, they have different cognitive capabilities, different levels of emotional intelligence, different levels of maturity, different belief systems – and therefore different ideas about the problems we face and how to tackle them..

Each stakeholder group therefore views the problem differently;



Wicked & Wise

they have different motives, opinions and objectives and will invariably stand behind a version of 'the truth' that suits their purpose, while simultaneously dismissing all others

Making real headway in tackling wicked problems is especially thorny because the responsibility for finding a workable solution to wicked problems always cuts across many groups of people who will not all be aligned on the problem, the cause or the solution.

The solutions therefore come down to a matter of judgement about what is 'better', 'worse', 'good enough' or 'not good enough'. If we can't define the problem or the definition varies depending on the stakeholder we ask, then there can't be an accepted objective determination of the problem or the quality of the solution.

Take climate change, for example. There are stakeholders involved in this problem that don't even believe it's a problem! They believe that global warming is a cyclical phenomenon that has been occurring on the planet for millennia – often citing the Ice Age as evidence of this position. There are others who feel so passionately about solving this problem they will risk their lives in front line protests. Each believes the other is an idiot and that they are 100 per cent correct, and that their actions or inaction is fully justified.

Of course when you have multiple stakeholders, each of them takes a different perspective, which can make finding a collective, mutually agreed understanding of the problem hard enough, never mind a collective, mutually agreed solution.

Perspective taking – who's on first

At the heart of the problem of multiple stakeholders is the fact that most get stuck in a singular perspective and will often defend their view to 'the death'. Thus most people are totally immersed in their own perspective on the world and believe themselves to be 'right' and therefore all others must be 'wrong'. They are



What Makes Wicked Problems Wicked?

wedded to their 'I' perspective with unshakable certainty (they are stuck in their Upper-Left and don't know they're stuck). Such a binary right/wrong duality combined with the lack of awareness of which perspective they are taking is the real problem here. In other words it's not that we have different views on things; the problem is we are intransigently stuck in one view with no awareness that we are stuck.

Let us unpack this a little more. Most people when arguing about anything, a tame or a wicked problem, take one of three perspectives. These are called the first, second or third person perspective. For those a little rusty on their grammar, first person perspective is the person speaking; second person perspective is the person being spoken to; and third person perspective is the person or thing being spoken about.

First-person perspective is the personal subjective perspective. Stakeholders operating from the first person are focused on 'Me, My, I'. They enter discussions about how to grapple with and solve the problem believing they are right and everyone else is wrong. Their priority is to deliver on their own agenda and protect their own interests. When stakeholders communicate in the first person perspective, they are putting a stake in the ground about what they want, think or believe. As a result they tend to be very attached to what they communicate in the first person. The first person perspective is very passionate, it's powerful and engaging, but it can also be dogmatic and unyielding. It is based on personal experiences in the world, things the stakeholder has witnessed and 'knows' to be true because they have seen them with their own eyes. This is often the approach of religion or faith, as well as certain die-hard political positions.

If the stakeholders don't get stuck in first person perspective, then most likely they are stuck in the third-person rational, objective perspective. Stakeholders operating from the third person will helicopter up above the issue and present facts, figures and data to support their case. They believe the 'evidence' reveals 'the truth' and the answer must be evidence based. This is the

Wicked & Wise

approach of science (or more specifically, 'scientism'). These stakeholders will say things like, 'the evidence states' or 'the data doesn't lie'. This perspective is very common in business. It is often claimed that the answer is 'nothing personal'. As such people taking the third person perspective can inadvertently abdicate any personal responsibility for the outcome – a sort of 'it's not my fault... I was simply doing what the evidence suggested I should do' approach.

If stakeholders are not stuck in first or third then they may flip flop between both. At times they will hold firm to the direct, passionate first person perspective, stating their case and hanging on to that position come hell or high water. If such passionate advocacy doesn't work they may then flip into an objective rational third person perspective in an attempt to win the argument through meritocracy.

To add to the complexity, these two perspectives (first and third) are often deeply intertwined. For example, stakeholders will often use the objective data to validate their own first person perspective while disguising themselves as dispassionate rational observers. Alternatively they may delude themselves that they are taking an evidence-based approach when they are selectively choosing only those pieces of evidence that they happen to believe are correct based on their first person values.¹⁴

The great irony is that progress only ever tends to be made when stakeholders can access the gap between first and third and get into second person perspective taking. We have to be careful here, because there are degrees of second person perspective, which can run from the very narrow to the very broad. A narrow-view second person perspective might be a fundamentalist believer in a particular religion – their religion and their religion alone is true and real, and all others are false or even demonic. They have expanded their identity from a narrow first person 'me'

¹⁴ Wilber K (1998) *The Marriage of Sense and Soul: Integrating Science and Religion*, New York: Random House.

What Makes Wicked Problems Wicked?

to a wider 'us' (that includes second person), but that 'us' is a 'chosen people,' more special and select than any other group or any other 'us' in existence, and even selected by God to rule the world. It is this type of narrow second person perspective taking that celebrates the execution of French cartoonists for poking fun at their version of God, even though the cartoonists poke fun at every version of God.

But the more open version of second person is simply the perspective where a person can drop or expand their own narrow first person viewpoints and collaborate with others in making a larger 'we' or 'us.' Real collaboration occurs in the second-person perspective. Unfortunately very few people operate from this perspective, or have any real world experience of the difference it can make to successful collaboration; or they stop at a narrow, fundamentalist or extremely limited version of it.

Many of us have a nagging suspicion that we're not great at communication. If we are honest with ourselves, misunderstanding and miscommunication is not that rare in our lives. This is in part because we don't listen very effectively and partly because we just don't understand the anatomy of successful relationships. For most people, listening is simply 'waiting to speak'. So when we bring multiple stakeholders together in a room, they often don't really connect effectively with each other in a way that would solve problems. Instead they tend to transmit their own perspectives and hope that others agree with them. They are not really listening; they are waiting to get their point across so they can hopefully persuade everyone that they are right and everyone else is wrong. The whole gathering is not a real dialogue but a series of parallel monologues. In that process, they will flip into passionate advocacy of their view from the first-person perspective and may back it up with dispassionate data from the third person perspective. What they don't do is proactively build a shared commitment to find a workable solution that works for everyone. And that's because we don't really understand the secret to great relationship – second person perspectives.

Wicked & Wise

When a first-person 'I' and a second-person 'you' come together, the result is a 'We.' So 'We' is sometimes counted as part of a successful second-person perspective. So what we have is that the 'I', 'WE' and 'IT' perspectives are first-, second-, and third-person viewpoints. Every major language in the world has these three major pronouns – further showing the ubiquitous and widespread recognised existence of the quadrants.

The second person perspective is the *shared* perspective (the Lower-Left 'WE' or relationship dimension). It's where the stakeholders give up their 'Me, My, I' first person perspective (or Upper-Left 'I') and surrender the desire to helicopter up to the third person observer perspective (the Right Hand 'IT/S'). Rather they set aside both first and third and build second – that which is common, shared, mutual. People who are skilled at creating second-person space will often go into increased detail or pull back to higher principles until they find some common ground that both parties can agree on. They will then build from there until they have a more solid basis for agreement and deeper connection. This is a very subtle and skilled process that some can do more naturally than others, but very few are conscious of these perspectives and even fewer are proactively moving between the perspectives in order to clarify the misunderstanding with the intent of creating a shared view that honours all parties.

Most non-wicked, albeit complex, problems have a few stakeholders and usually they all have different opinions about the problem, but the limited number of stakeholders means that resolution is often likely – eventually – especially if those stakeholders can move into the shared space of the second person perspective. For wicked problems, there are multiple stakeholders. Often they are all pulling in opposite directions and so no real headway is ever really made. And it is often this endless bickering and infighting that fuels the sense of futility around wicked problems, which makes them feel inevitable and unsolvable. But when stakeholders learn about the second person perspective –and actually take it to heart – the endless

What Makes Wicked Problems Wicked?

rounds of futile positioning can be transcended and some real connection and progress can be made.

Multiple Causes

Not only are wicked problems multi-dimensional and involve multiple stakeholders, but they have multiple causes. And of course the multiple stakeholders never agree about the multiple causes!

What causes poverty for example? You could argue that political unrest and the consequent leadership vacuum causes poverty, and certainly there is evidence to back that up. Countries that are in turmoil tend to have more people living in poverty than those that are stable. But political unrest is not the only cause of poverty. There is a very strong case that low educational attainment contributes to poverty. After all, if someone doesn't even have the basics in reading, writing and arithmetic it's very unlikely they are going to be able to land a job that pays more than a pittance. Lack of job opportunity also promotes poverty. Poverty can be caused following a natural disaster, or geographically if a large local employer closes down and there are few alternative employment prospects. Remember Foundation Paraguay identified 200 characteristics of poverty which point in a number of different causal directions.

When there are multiple causes, it becomes very difficult to separate those causes and identify those that are having the biggest impact. Plus they are often so intertwined and interdependent it's impossible to know for certain what is causing the wicked problem.

With regard to climate change, for example, some people believe that it's being caused largely by the burning of fossil fuel, others believe it's caused by normal cyclical patterns that occur on the planet every generation, and some still believe that climate change is caused by the explosion in global population – there

Wicked & Wise

are simply too many people on the planet. And others don't believe it's occurring at all.

Of course, whatever the agreed upon cause then determines the proposed solution. For example, a stakeholder group who is adamant that climate change is brought on by too many people on the planet is going to propose a radically different solution to the stakeholder group that believes that climate change is caused by the burning of fossil fuels. One is going to lobby the Pope to recommend birth control and the other is going to propose the investment in carbon capture green technology.

Ironically it's often only when we've implemented a solution, at great expense in terms of effort, time and cost, do we more fully appreciate the real causes. Perhaps nothing changes or perhaps the situation is made worse because we only start to understand the real causes, the degree of multi-dimensionality and stakeholder interdependency of a wicked problem, once we've failed to solve it. But seeing an implementation failure as part of the solution to the wicked problem runs contrary to the way we've been taught to solve problems. Traditionally we've been told that in order to solve a problem we need to gather all the relevant information, analyse that information and decide on the best course of action to solve the problem. Such an approach doesn't work with wicked problems because we can't understand the problem without knowing its context and we can't meaningfully search for all the information we need without first having some idea about what we think the cause is and therefore what we think the solution might be. In other words for wicked problems, everything is back to front. Only when we have implemented solutions based on judgement and assumption around cause do we fully appreciate the far-reaching interdependent complexity of the problem in the first place.

Plus we are encouraged to avoid failure at all costs from an early age. And yet when it comes to solving wicked problems, we absolutely must be comfortable with failure so that we can get closer to success. It's actually through the failure that we learn

What Makes Wicked Problems Wicked?

what we really need to learn as we tend to learn much less when we succeed with an answer.

Paradoxically when it comes to wicked problems, failure can cause success, which may itself be one of the reasons we can't seem to solve them because we are so obsessed with success that the very notion of failure has become so unpalatable that we have simply stopped trying.

It is however only through our repeated attempts to understand the causes and interdependencies between those causes that we begin to appreciate how inadequate our approach is, or how our proposed solution may have knock-on effects elsewhere that were not previously considered. These new insights require ongoing adjustment to the definition of the problem and the proposed solution. Ultimately when we can't identify what is really causing the problem, we can't fully appreciate the interdependencies of these causes and that certainly amplifies the wickedness.

The 'way forward' we are proposing in the next chapter therefore allows us to systematically identify all the deeply significant causal factors – virtually all of which are completely ignored in any typical approach to difficult problems. Once understood, you will probably be as flabbergasted as we are at their almost universal exclusion or absence which will in turn give you a newfound appreciation for why most wicked problems remain wicked indeed.

Multiple Symptoms

Not only are wicked problems multi-dimensional, involve multiple stakeholders, and have multiple causes that no one can agree on, but they also have multiple symptoms. It is often these multiple symptoms which muddy the water when it comes to the various causes of the problem in the first place. Plus many of the symptoms of one wicked problem are wicked problems in their own right.

Wicked & Wise

If you think about poverty and poor education for example, both are wicked problems and each is a symptom of the other. Poverty can be a symptom of poor education because unless an individual can gain at least a basic education where they can read, write and count, then it becomes much harder to secure a well-paying job.

Conversely poor education can also be a symptom of poverty because if a child is continuously sent to school without food because the parents can't afford breakfast, then that child will probably not have the concentration necessary to attain a good education that could help lift them out of poverty. Plus in many developing countries there may not be a school nearby, or the children may be removed from school and sent out to work so as to supplement the family income because the family is so poor. Of course those children then never get the education that could help them to break the poverty cycle.

Wicked problems are incredibly challenging to handle because of the interdependencies between causes, symptoms and potential solutions. If your overall approach, from the beginning, is geared to multiple dimensions and interdependencies in virtually all realms, then you are much more likely to be able to spot – and address – these multiple complexities from the start.

Complex inter-dependencies

Although 'six degrees of separation' is considered an urban myth, the idea that we live in an increasingly small world is not. We are incredibly interconnected and interdependent on things we may not even consider. Globalisation is a product of our escalating interdependency. The economic collapse of 2007 is a living example of that interdependence. Someone in a room in the US said, 'Hey, I have an idea: instead of trying to sell mortgages to our existing market that is increasingly saturated, we could effectively create a new market by lending to people we would normally reject. Let's call them sub-prime.' The logic was that it would be OK because the value of the underlying

What Makes Wicked Problems Wicked?

asset was increasing anyway, so if things did go wrong then the asset could be sold to recoup the investment. Except the assets stopped increasing. By which time other people in other rooms had come up with increasingly complicated ways to carve up the toxic debt and on-sell it in the market. And the collective decisions of, by some estimates as few as 50 individuals, ended up affecting everyone on the planet. What happens in the UK economy or the Japanese economy or US economy affects all the other economies because we are so interdependent.

And this interdependence is increasing. For example, one study looked at 43,060 transnational corporations and suggested that there were, in reality, only 147 companies that actually determine global outcomes across the planet.¹⁵ Due to their share ownership, these companies, many of which are banks or financial institutions, control what happens in most of the other companies. For example, a few pension funds, insurance companies, mutual funds and sovereign wealth funds hold \$65 trillion, or 35 per cent of all the world's financial assets.¹⁶ So in effect 500 individuals, mainly men, pull the ownership strings of 147 companies which indirectly control the other 43,060 companies which in turn drive the global economy and determine the destiny of over 7 billion people.¹⁷

We are profoundly linked to each other – even though we may wish we were not. Of course when we don't understand the phenomena of interdependency, it's either your fault and your problem or my fault and my problem. We either ignore it or wash our hands of the situation because it's nothing to do with us, or we storm in from our singular first-perspective believing ours is the only right definition or solution. Either way the problem

¹⁵ Vitali S, Glattfelder JB, Battiston S. (2011) *The network of global corporate control*, PLoS One. 2011; vol 6, no.10, Epub 26 Oct 2011.

¹⁶ Barton, D (2011) 'Capitalism for the long term', *Harvard Business Review* March 2011.

¹⁷ Rothkopf D (2009) *Superclass: The Global Power Elite and the World They Are Making*, New York Farrar, Straus and Giroux.

Wicked & Wise

persists because we don't fully appreciate these interconnections between causes, symptoms and how the proposed solutions will have a knock on effect and create unintended consequences in areas far removed from the original problem.

We may want to believe that we can turn our back on wicked problems, ignore the causes and pretend the symptoms don't exist, but the escalating interdependencies inherent in these issues means that they are not your problems or my problems – they are universally our problems, and pretending otherwise is utterly futile.

Unfortunately we don't fully understand these interdependencies, and this misunderstanding has us scurrying back to our own positions and holding fast. Instead of reaching out into the world to embrace this interdependence, we retreat back into our respective tribes, cultures or intellectual silos. We withdraw from the challenge by telling ourselves, 'That's got nothing to do with me, it's not my problem.' We turn our back on the issues we need to face because they seem so far removed from us and our everyday lives, and yet the nature of interdependency means that we will be affected by them one way or another. We simply can't afford to stick our head in the sand indefinitely.

The wicked problems we face as a species are now so significant and so pressing that we often feel overwhelmed by them and have no faith in our individual or collective ability to address them. So we ignore them – but, of course, we will not be able to ignore them forever.

The life model that states that I will just look after my little tribe here because my life is not affected by everybody else is no longer fit for purpose. Even if you go deep into the Amazon Rainforest, those tribes are now deeply affected by the outside world. The tribal elders can pretend that they aren't, even though they can hear the chainsaws, but the chainsaws will still come. We can pretend that the trouble in the Ukraine, global warming or the actions of the group calling themselves Islamic State are

What Makes Wicked Problems Wicked?

not our problem, either, but they are. In the same way that, ‘Evil prospers when good men do nothing’; wicked problems prosper when good men and women fail to appreciate just how much our actions, decisions and inactions affect everyone else.

At this stage in our evolution, as a species there are simply not enough people who are sufficiently mature or evolved in their thinking to really appreciate this dynamic. Wicked problems are therefore fundamentally developmental problems, and if we really want to find a constructive way forward we need to adapt and take a quantum leap in our level of thinking so we can address the issues instead of just pretending that they don’t exist or that they don’t concern us because the nasty unpleasant symptoms are occurring on a different continent to a different ‘tribe’. And this means very specifically, as we will see, that part of the solution to wicked problems will involve the actual growth and development of the consciousness of the change agents themselves.

Multiple Solutions

Clearly if a wicked problem is multi-dimensional, involves multiple stakeholders, has multiple causes that no one can agree on, and displays multiple symptoms, then there will inevitably be multiple potential solutions.

If, for example, a stakeholder group believes that poverty is caused by low educational attainment, then their conviction in that cause will influence their choice of potential solution. When sourcing a solution they will only look at education and how they can ‘fix’ education from their perspective. Many different stakeholders have proposed many different solutions for ‘fixing’ education. For example school league tables were introduced in the UK to rank all schools against each other based on student results. The idea was that if performance was measured and ranked it would improve education, but as a ‘solution’ it’s fraught with problems. School league tables don’t improve student performance in the same way that health care waiting lists don’t

Wicked & Wise

improve the performance of the health care professional. What waiting lists and league tables really do is allow those within the various systems to take their eye off the real objective so as to effectively manipulate the outward appearance of performance. This drift towards the 'gamification' of any metric has become a huge, time-consuming activity in its own right. But just because we can manipulate the data to look like performance is improving, either by refusing to add people to waiting lists until the very last minute or by lowering the level at which an exam or assessment pass is granted, does not mean that performance is actually improving. It just means it looks like it's improving.

Initiatives designed to improve performance have in many cases achieved the exact opposite, as people spend their time fixing or fudging the results rather than improving them. In education, the introduction of 'continual assessment' in schools is another 'solution' to raise educational attainment. And yet like so many so-called solutions to wicked problems, those who implemented it didn't consider the consequences and didn't appreciate the interconnectivity between the various causes and symptoms, and so they just made matters worse. Clearly the idea was to ensure that children who didn't cope well with the intense stress of single tests or examinations were not unduly penalised. To some extent it was a valid idea, but a wicked problem is complex and interdependent, which means that any attempts to solve it often result in negative unintended consequences elsewhere. As a result, now all children are often stressed all the time, not just once at the end of the term or the end of the year.

Another stakeholder group determined to reduce poverty may believe that the solution simply lies in increasing the income that enters a household. Pretty logical – poverty is after all a lack of money. In an effort to alleviate child poverty, for example, many countries pay child benefit and ensure additional support is available to families with children. The unintended consequence of this well-intentioned initiative is that there is now a financial and social incentive to have children. As well as receiving government money per child, social housing is prioritised to parents,

What Makes Wicked Problems Wicked?

especially single parents. This seems logical in order to protect the children, but it also means that people game the system. Instead of using the money as it was intended, people are simply having more children than they really want, so they receive an income and have a place to live. Of course, if someone's primary purpose for having children is to get extra money and have their rent paid, then the money paid out to prevent child poverty is almost certainly not being spent on the children!

Wicked problems don't exist in a vacuum. Because the causes, parameters and objectives vary, often the so-called solutions end up exacerbating the problem or creating new additional problems. If we look again at education, is the objective to prove that something useful is taking place in school? Or, is it to cultivate our children's innate curiosity and work with what they know to develop a lifelong passion for learning? Is it to impart information about the world or equip children with transferable life skills that will grow and develop as *they* grow and develop? A lot of what happens in modern educational systems seems to be more focused on pouring information into children's heads and then rewarding them for regurgitating that information rather than genuinely educating them and preparing them for the world we live in today or the world they will live in tomorrow.

There are a myriad of possible solutions to every wicked problem; which one is decided upon will depend on the stakeholders, their level of development, their agenda, their conviction in the root causes of the problem, and which symptoms they are seeking to alleviate first. There are also possible solutions that are never even considered.

Ultimately whether a solution is 'good enough' or not will largely depend on the social context and who is making the assessment and the stakeholder's interdependent values and objectives. The interconnected nature of the causes and symptoms also means that binary 'right' and 'wrong' assessments are impossible. When it comes to wicked problems, 'most workable for now' is often the best we can hope for. But that also leaves us an enormous

Wicked & Wise

range of variance – from ‘most workable’ to ‘most disastrous’ – there are still much better, and much worse, ways to approach wicked problems – as we hope to demonstrate.

Constantly Evolving

Of course, all this means that the problem itself is constantly evolving. The stakeholders involved in solving the wicked problem are constantly changing, as some leave departments or when there is political regime change. The stakeholders themselves are also personally evolving as their understanding, views and opinions morph over time. The causes are also constantly evolving, new causes are identified and new symptoms manifest.

Plus each solution usually highlights a new, different and often conflicting aspect of the nature of the problem, so there is no end point. We will never reach a point where we can, for example, tick off ‘poverty’ as a task that has been completed and a wicked problem that has been eradicated. The problem solving process as well as the problem itself is constantly shifting and evolving, so it only ends when we run out of resources, be that time, money or the desire to solve it. Successive governments, for example, may shift their focus from one area to another because of their political persuasion, but the problems themselves are still there.

Trying to solve a wicked problem is often like trying to hit a moving target. Paradoxically solving wicked problems requires us to appreciate that we really can’t but try anyway. We are only able to get a handle on a challenge at a given point in time. Any solution therefore will probably be out of date or even obsolete by the time it’s evaluated and implemented. And yet instead of attempting, failing and turning away from the problem, we need to attempt, fail and turn back to the problem armed with fresh insights and a new, better understanding of what we face.

There is no end, or as Rittel and Webber called it, ‘no stopping rule,’ because the landscape is evolving so quickly that it’s

What Makes Wicked Problems Wicked?

impossible to know when we've 'finished' or been successful. The fact that there is no end is itself not a bad thing. Evolution has no end yet we still consider it to be a powerfully positive phenomena. And just because there is no end does not mean we can't engage now in useful activity that is constructive and beneficial to many.

Even if we reach a point where we think we've nailed it because the symptoms of the wicked problem have abated and we hubristically think we've solved it, all that's usually happened is the problem has become dormant (or simply shifted elsewhere). The mistake is that often we think we've solved it but we haven't really. Or it simply pops up somewhere else in a different form. In most cases there is no definitive test to determine if the solution has been successful anyway because the consequences of each implemented solution can be far reaching. And these solutions – whether successful or not – can't easily be undone, so trial and error is not really possible with wicked problems. Again this is due to the complex interdependencies – known and unknown – that are the hallmark of wicked problems. Tackling wicked problems is like playing that 'whack a mole' game at a funfair. As soon as you whack one mole, another two pop up somewhere else!

Plus how can we ever really nail anything if the environment in which we are implementing the solution is changing all the time? And that's the ultimate paradox if we are ever to really solve wicked problems: we need to accept that we will never solve wicked problems! We will only ever be able to solve and re-solve over and over again. This constant evolution is part of the very fabric of life. We don't need to be scared of it; we just need to embrace it – with, of course, a wider understanding.

Embracing evolutionary complexity

So far there have been four great ages of humans (from the view, in this case, of the Lower-Right quadrant). The age of the hunter-gatherer lasted about 200 000 years. Life was pretty straightforward at this point – hunt, gather, stay alive and breed.

Wicked & Wise

Our hunter-gatherer ancestors didn't have wicked problems to solve. There were not enough humans on the planet to create complexity. Tribes even a few hundred miles from each other could live in relative isolation. What one tribe did probably didn't have any impact on what another tribe did. The interdependencies and complexities simply were not significantly present at that point.

As human beings evolved, we became more sophisticated at manipulating our environment. The nomadic hunter-gatherers moved more into being farmers during the Agrarian age (AD 500 – AD 1500) they developed tools, cultivated crops, and raised animals for food, a state of affairs that lasted about 10 000 years. Of course there were pockets of more highly evolved cultures, such as the Mayan, Aztecs, Greeks and Romans during this period, but the vast majority of the population were still in farming mode.

Clearly the reality of knowledge doubling was already in motion as the duration of the first age of humans to the duration of the second was significantly shorter. As a species it took us 200 000 years to evolve to the second age and only 10 000 years to reach the third age of humans. In the third great age, people became more creative and cooperative. There were many more people on the planet, and we began to trade with each other. Business emerged, and as commerce grew, more and more workers were required. Towns and cities developed to house the workforce, and industry followed. This Industrial age, which lasted 200 – 300 years, was a period of immense creativity and invention made possible by the Age of Enlightenment. This heralded the widespread emergence of Reason itself that allowed the hypothetico-deductive approach of genuine 'science,' and inspired the world's smartest minds to turn their attention to scientific understanding and innovation. On a physical dimension at least, we began to really understand what caused things to happen like why apples fell from trees. We made huge strides in science and medicine; and we came to appreciate the interconnected nature of reality (what the

What Makes Wicked Problems Wicked?

Enlightenment called ‘the great interlocking order of nature’).¹⁸ Today we are in the post-industrial age (also called ‘postmodern’) which is marked by service-oriented work and the ‘knowledge worker,’ and is characterised by an increase in the service sector, outsourcing or increase in mechanised manufacture, technology and information. For that reason it is also sometimes known as the Information Age, and it’s only due to last for another 70 years.

The speed of development from stage to stage is significant – 200 000 years of hunting and gathering to just 100 years or so in the information Age and this evolution is likely to quicken. The faster the knowledge doubling, the faster the change and the quicker we evolve – or at least the quicker we must adapt.

The more sophisticated we get, the more elaborate we become; and therefore the danger is the more complicated our lives become. But complexity is not something we need to fear – it’s actually a positive sign of evolution. There are three stages to the evolution of anything, whether that’s a new product, a new idea or a new species.

1. Emergence
2. Differentiation
3. Integration

Emergence is pretty straightforward and everything starts with emergence. When human beings first emerged is open to debate; but we obviously did. Over the course of many thousands of years, we needed to evolve and adapt to the changing environment. Differentiation follows where we need to establish difference. As human beings, the very nature of our own consciousness and identity is based in part around differentiation. As children we must define ‘me’ and ‘not me’ in order to even recognise that we exist as a physical entity separate from our mother. This ability to separate one thing from another is right at the core of who

¹⁸ Taylor, C. (1992), *Sources of the Self*, Harvard: Boston University Press.

Wicked & Wise

we are. It doesn't just happen at the 'I' level, it also happens at the 'WE' level; and in hunter-gatherers it became crucial to differentiate who was in our tribe and how we differed from the other tribes. This was often a matter of life and death. We still differentiate tribes today though nationality, religion, gender, culture and sport, and so on.

Differentiation is an incredibly important evolutionary step in the world of 'IT' as well as the world of 'I' and 'WE'. In an effort to understand the world around us, we still often break it down to its smallest parts so we can understand 'IT'. Science as a field of study is the result of our drive toward differentiation. A lack of differentiation will often lead to an imprecise solution and certainly this is true for wicked problems. As evidenced by the knowledge-doubling curve, we now live in a highly differentiated world.

But in order for that differentiated knowledge to be really useful we need to integrate it and understand it as a whole. It may be entirely possible to break a problem down into very clearly defined smaller issues, but unless there is integration, the danger is that this leads to fragmentation or even disintegration. It is this fragmentation and disintegration that is often at the heart of wicked problems.

We can see this phenomenon at work in modern scientific medicine. Our understanding of the human body has advanced significantly over the last 150 years. For most of that time, scientists and physicians have been unravelling the complexity of the human body by systematically reducing it to ever smaller parts for study and analysis. And it's been incredibly successful. Reductionism has shed new light on how the human body works. It has generated an enormous amount of new information, spawned whole new areas of medical research and created new languages to capture the myriad of discoveries being made.

A by-product of this reductionist approach is that it's become impossible to keep pace with all the new data and discoveries

What Makes Wicked Problems Wicked?

on health or human anatomy. As a result, each part of the human body developed its own expert and each is a separate 'ologist'. These 'ologists' now publish their new insights in their own journals, speak in their own unique language, and attend specialist conferences to share increasingly finer details about their specialism. Physicians often become not just specialists but super-specialists.

Like the so-called solutions to wicked problems, this reductionist approach has many unintended consequences. In medicine, for example, we have largely mastered the emergence part of the evolutionary process, we are pretty skilled at the differentiation element, but we have a long, *long* way to go to master integration. In fact 'integrated care' and 'interdisciplinary research' has only really emerged in the last 20-30 years as a concept, let alone matured as a practice. The human organism is an example of a complex system, and complex systems cannot be understood simply by understanding each differentiated part of that system, because the whole is *a/ways* greater than the sum of the parts.

A modern example of the influence of differentiation can be seen through the Global Financial Crisis (GFC). During a visit to the London School of Economics in November 2008, Queen Elizabeth, capturing the mood of public exasperation, broke with protocol of such visits and asked an economist why his profession had not seen the crisis coming. A group of top British economists then wrote to the Queen to answer her question. The letter signed by London School of Economics professor Tim Besley, a member of the Bank of England monetary policy committee, and eminent historian of government Peter Hennessy, stressed that although everyone had been doing their individual jobs correctly, as a group the economists had missed the big picture of a 'series of interconnected imbalances'.

In summary they wrote, 'The failure to foresee the timing, extent and severity of the crisis and to head it off, while it had many causes, was principally a failure of the collective imagination of many bright people, both in this country and internationally, to

Wicked & Wise

understand the risks to the system as a whole.¹⁹ Differentiation is extremely important in understanding the parts, but it absolutely must be integrated back into the whole.

Integration is the real challenge we face today. The knowledge available to all of us now is staggering, so staggering in fact that it has pushed many individuals in all walks of life into specialist subjects and intellectual silos. In times of confusion we can often feel threatened and so this drive to differentiate often pushes us back to the safe harbour of our own culture, religion or way of life, further creating this 'them' and 'us' mentality. We just need to look at the escalating problems in the Middle East to see this in action. Scotland nearly chose to break away from the United Kingdom and the minority party UKIP is making political progress in Britain as it encourages more people to rail against 'them' – whoever 'them' may be. More people are considering a retreat back to an 'us' of tribalism, mythic simplicity and polarised opinion in a mistaken belief that this will be progress and yield a brighter future.

Such a desire for increased tribalism in a complex world, whilst understandable, is not the solution. It's time to integrate all the really insightful and important 'parts' of all the myriad of complex systems to create a more complete understanding of the pressing issues we face, so that the whole is once again greater than the sum of the parts.

When we don't appreciate the three-step process of evolution and we don't therefore understand or manage the complexity of the world, then this wonderful, beautiful awe-inspiring elaboration of humanity can very quickly become a knotted congealed mess. If this complexity is mismanaged, it morphs into a whole series of stuck wicked issues that seem to defy solution. In a very real way, wicked problems are simply the product of our evolution – they are a product of our escalating complexity. Our ability to

¹⁹ Stewart, H. (2009) This is how we let the credit crunch happen, Ma'am...
The Guardian www.theguardian.com/uk/2009/jul/26/monarchy-credit-crunch

What Makes Wicked Problems Wicked?

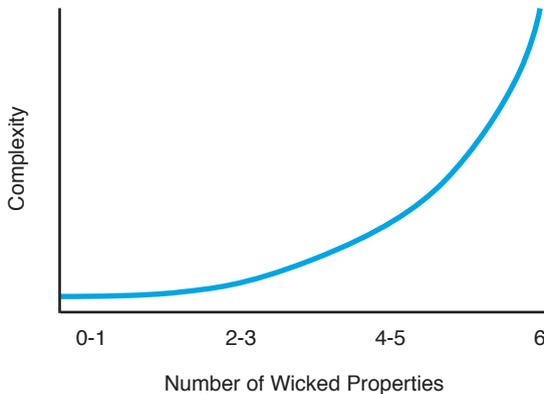
understand that escalating complexity and find a framework to untangle and comprehend that complexity is the part we've not yet mastered. The good news is wicked problems do not defy solution, they just need a more sophisticated approach and a far greater understanding of how to effectively navigate human interactions and find common ground from which to orchestrate workable solutions in real time. If we can understand the complexity and reach a new level of integration, then new and beautiful things emerge and the whole magnificent evolutionary process begins again.

Correct Diagnosis

So how do we know if we are up against a wicked problem or just a complex problem? We can get a pretty good idea by the number of properties the problem we face has from the list above (see Figure 1.4).

This is not a hard and fast rule, but it will help us to better diagnose the problems we face so we can use the right tools to solve the right problems.

Figure 1.4: Problem type by complexity



Wicked & Wise

A simple problem will usually have none or perhaps one of the properties of a wicked problem. For example, winning a game of chess is a simple problem. Chess may have multiple solutions but it isn't multi-dimensional. A chess game has two stakeholders, not multiple stakeholders, and there are no causes or symptoms of the problem, and the game of chess is not constantly evolving.

A difficult problem will usually have two or three of the properties of a wicked problem. For example, employee engagement is a difficult problem. There is multi-dimensionality to employee engagement because engagement is affected by the employees' internal subjective world, the external objective world and the interpersonal world of colleague relationships. There are also multiple causes and multiple symptoms, but probably only a few viable solutions. Although there may be multiple employees with mixed engagement, there are only two stakeholders – the employee and the employer. And finally it's not constantly evolving either – employee engagement may make the occasional evolutionary leap forward or back when, say, there is a companywide pay rise, change in management or pay freeze, but engagement as a phenomena is not constantly evolving.

A complex problem will usually have four or five of the properties of a wicked problem. For example, strategic failure is a complex problem. If a business has sought to launch a new product in a new market and the strategy has failed, then the only properties that are unlikely to be present is constant evolution. The strategy has either succeeded or failed. Strategy failure is multi-dimensional. It will have multiple stakeholders, including the executive team, researchers in the new market, customers in the new market, product designers, employees, and so on. The failure will be multicausal – it could be down to the product design, lack of marketing, lack of understanding of the new market and the new customer base, poor implementation, product defects, the economy in the new territory, global economy, political regime change or uncertainty, competitors, and so forth. There is also likely to be multiple symptoms to the strategic failure, including a drop in employee morale, senior executive unrest, loss of revenue,

What Makes Wicked Problems Wicked?

resignations, heightened absenteeism, increased negative media and PR, among others. Because there are so many causes and symptoms there will invariably be multiple potential solutions, each formulated based on a judgement as to which of the causes or symptoms the solution is designed to address.

A wicked problem however will exhibit all of the six properties.

When faced with a problem, we can use this framework to ask ourselves what are then six obvious questions:

1. Is the problem multi-dimensional?
2. Does the problem involve multiple stakeholders?
3. Are there multiple causes for the problem?
4. Does the problem exhibit multiple symptoms?
5. Does the problem have multiple potential solutions?
6. Is the problem constantly evolving?

Having answered these questions, we can then get a better sense of the type of problem we are facing in terms of complexity. We need to appreciate that the traditional methods of solving problems will only really work for simple and difficult problems. The truth is we are not even making enough progress with the many complex problems we face, never mind the escalating number of wicked ones. And considering that wicked problems are considerably more complex than even the most complex problems, then we are in trouble. At least we are unless we find a new way of tackling these complex and wicked problems.

Wicked Problems Require Wicked Solutions

If we are serious about solving and re-solving wicked problems, we must recognise that the solution needs to be every bit as wicked as the problem it is designed to solve.

Wicked & Wise

It's been suggested that there is no obvious answer to wicked problems. We are proposing there is – that the solution must match the nature of the problem. If we are facing a wicked problem that is multi-dimensional, then the solution must be multi-dimensional and address all dimensions. If the wicked problem involves multiple stakeholders, then the solution must involve and collaborate with all those multiple stakeholders. If the wicked problem has multiple causes, then the solution must take those multiple causes into account and expect and seek to anticipate multiple far-reaching repercussions. If the wicked problem has multiple symptoms, then the solution must address all those symptoms so as to ensure that at the very least the solution doesn't exacerbate those symptoms or create new, potentially worse symptoms! If the wicked problem has multiple potential solutions, then we must accept that we will need to implement multiple solutions before we can make any real progress. And finally if the wicked problem is constantly evolving, then the solutions we implement must also constantly evolve.

The solution has to be complicated because the problem is complicated. So it's not a simple answer; it's a complex answer. How do you reverse global warming? How do you stop child trafficking? These are wicked problems that can't even be explained easily, never mind solved easily. Too often we seem more interested in the sound bites about a problem, the headlines or the Tweet-able facts, than actually really unpacking the problem and getting to grips with it properly. And that's another item that needs to change.

First we need to appreciate that the only way to solve a wicked problem is with an equally wicked solution. When it comes to wicked problems, the wise solution is the solution that is as wicked as the problem.

And second, we need to appreciate that contrary to popular opinion, wicked problems are not impossible to solve. It is this helplessness that often feels so overwhelming – especially for those charged with finding real solutions to these intractable



What Makes Wicked Problems Wicked?

challenges. The chaos and futility of wicked problems can leave us beaten before we've even begun – sure that what we face is inevitable and we'd better just accept it.

Those searching for solutions must feel their way through the challenge and discover new emergent 'better' solutions as they go. Of course this ability requires complex judgement, high levels of intelligence and maturity so as to dynamically steer the evolving solution to the evolving problem and manage the issue in real time.

Wicked problems can be solved – and we need to start solving them and keep solving them today (and tomorrow and a hundred years from now). We need a framework that will allow us to appreciate the characteristics of the wicked problems we face in enough detail and with enough sophistication that we can successfully fail our way forward.

And that framework is called Integral Coherence.

