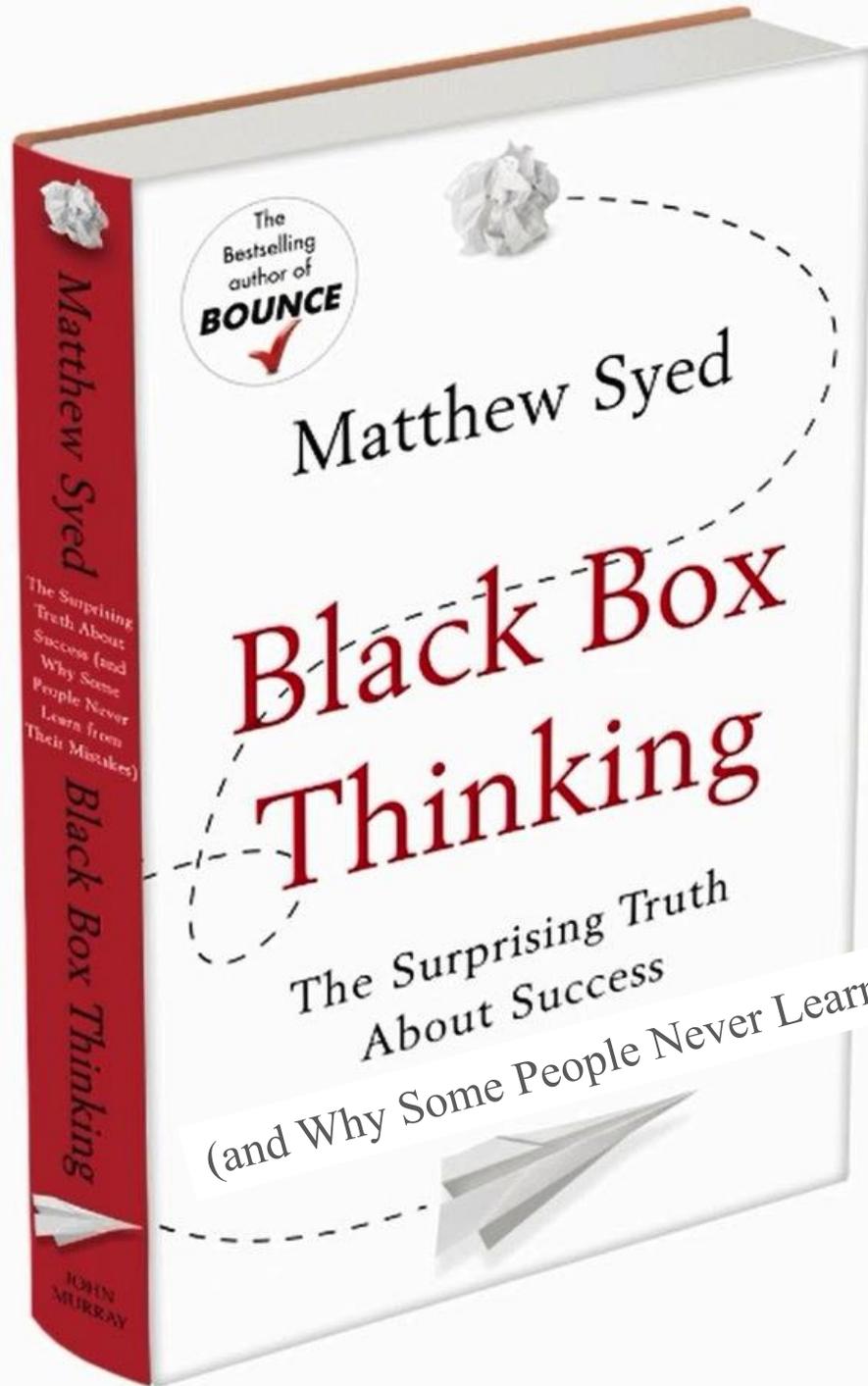


Mike Oxford

A Black Box Approach  
To Delivering Effective Mitigation

Learning from the Evidence



The Bestselling author of **BOUNCE**

Matthew Syed

# Black Box Thinking

The Surprising Truth About Success

(and Why Some People Never Learn from Their Mistakes)



Matthew Syed

The Surprising Truth About Success (and Why Some People Never Learn from Their Mistakes)

Black Box Thinking

JOHN MURRAY

Mike Oxford

A Black Box Approach  
To Delivering Effective Mitigation

**THE IMPORTANCE OF**

Learning from

**OUR MISTAKES**

# Three Scenarios

Happy Landings



# Three Scenarios

## Patient Recovery in Hospital



# Three Scenarios

## Delivery of Ecological Mitigation



# My Own Observations

There is something inherently difficult about moving a metal object full of people through the sky

There is also something inherently difficult about having your body opened up and repaired

There is certainly something inherently difficult about achieving effective ecological mitigation

Very complex systems are involved in all of the above

Where humans are involved – mistakes are likely to be made !





United Airline Flight 173

December 28 1978

Route: New York to Oregon

Crashed killing 10 of the 189 people on board



Did it crash because ...

Faulty landing gear?

Ran out of fuel?

Pilot error?



The pilot became too focused on the landing gear

He lost all sense of time

An hour later the aircraft ran out of fuel while still in the air !



Twice during the hour, the flight engineer warned the pilot

Twice - the pilot ignored the engineer

The engineer couldn't challenge the pilot's authority



## **Solution**

Airline industry introduces cockpit checklists that must be regularly checked

Assertiveness lessons addressed - its ok to challenge colleagues



## **Solution**

Flight investigators examine black box

Accident reports (mistakes) are disclosed to everyone

Temporary loss of credibility ... but long term benefits



108 SHOP liquid dish washer.

SUPER  
CLEAN



In UK  
National Audit Office 2005  
Reported  
34,000 deaths per year due to human error

The problem is not caused by a small group of crazy, homicidal, incompetent medics.

Medical errors occur most often - not when when clinicians get bored or lazy - but when they are going about their business with diligence and concern.

The problem – at 1<sup>st</sup> glance - appears to be complexity.

WHO lists 12,420 diseases which all require a protocol.

So no wonder mistakes are made!

But ...

There is something deeper and more subtle at work

It has little to do with too few resources or limited time

And everything to do with prevailing '*culture*'

There is a culture of evasion & cover up

Not confronting recurring problems and mistakes

It turns out that many errors in hospitals have subtle but predictable patterns or trajectories.

What air accident investigators call 'signatures'.

With open reporting and honest evaluation, these errors could be spotted and reforms put in place to stop them.

This is what happens in aviation.

But all too often it doesn't happen in medicine.

## Matthew Sayed

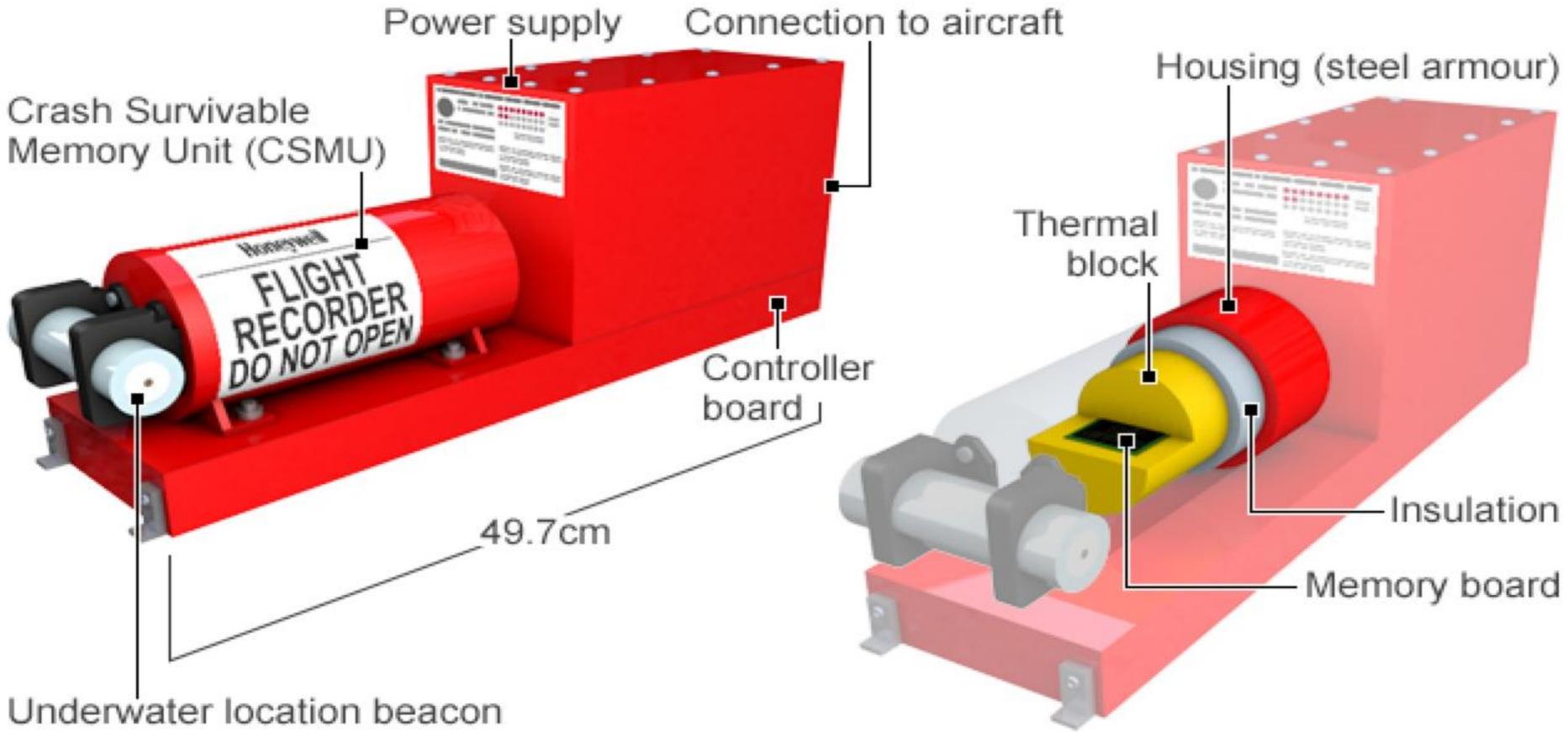
*“It turns out that, for reasons both prosaic and profound, a failure to learn from our mistakes has been one of the single greatest obstacles to human progress”*

Whereas

*“A progressive attitude to failure turns out to be the cornerstone of success for any institution”*



# Black box flight recorder



## Aviation takes failure seriously

Instead of concealing failure, or skirting around it, aviation has a system where failure is *data rich*.

Mistakes are not stigmatised,  
but are regarded as learning opportunities.

What relevance is all of this to us?

Are we like the aviation industry

or

The Medics?

I think ...

... we would benefit from a culture  
that does not stigmatise  
failure or mistakes

Matthew Syed

Psychologists make a distinction between  
mistakes where we already  
know the right answer

and

mistakes where we don't.

CIEEM Autumn Conference 2017

All About When We Don't Really Know

David Tyldesley's Presentation

*Effective Mitigation Monitoring*

# Beyond Monitoring: New Ways of Sharing and Learning From Evidence

Claire Wordley & Erica Newton

Today's Breakout Session No 4



My Groups

Discover



## The Institute of Clerks of Works and Construction Inspectorate of Great Britain Inc. (ICWCI)

836 members



**Elysha Summerfield** · **Manager**

Editor, Communications and Events Organiser at The Institute of Clerks...

... 4d

### Defect alert!



#### Rejected work!

Some brickwork had to be taken down as the DPC was not visible. As can be seen the DPC had not been bedded on mortar nor did it...

CIEEM proposals  
for greater focus on

Ecological Clerk of Works

My emphasis today

Is to focus on the mistakes we make  
where we 'should'  
already  
know the right answer

BS42020:2013

Committee member copy: Do not reproduce



BSI Standards Publication

## Biodiversity — Code of practice for planning and development

**bsi.**

...making excellence a habit.™

Pre-application  
Surveys & EclAs



Validation and Registration



Decision-making



Determination



Construction & Implementation



Post construction & Monitoring

BS42020

Planning  
&  
Development  
Process

Pre-application  
Surveys & EclAs



Validation and Registration



Decision-making



Determination



Construction & Implementation



Post construction & Monitoring

BS42020

Recognises

Information is  
collected handled  
and acted upon

By different  
professionals

at different stages  
of the planning  
process





Chartered  
Institute of  
Ecology and  
Environmental  
Management

# GUIDELINES FOR ECOLOGICAL IMPACT ASSESSMENT IN THE UK AND IRELAND

## Terrestrial, Freshwater and Coastal

Second Edition  
January 2016



Chartered  
Institute of  
Ecology and  
Environmental  
Management

# Guidelines for Ecological Report Writing

First Edition - February 2015  
Updated December 2015





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Environmental  
Management

## Competency Framework

Put simply you are competent if you:

Know what to do

Know how to do it

Know when to do it

Know why you do it

Can do it consistently well

Know your limits and when to seek help and advice



# Code of Professional Conduct

Revised November 2017



# Disciplinary Procedures

Revised June 2016

# In a Mark Avery Recent Blog Tim Reed (Ornithologist) Reports

*Frequently basic data sets are missing and prove  
very hard to obtain*

*Once data are obtained, it is often very hard to  
understand how the results have been reached and  
why they support the claims made*

In a Mark Avery Recent Blog

Tim Reed (Ornithologist)

*Cherrill et al (2016) showed disturbingly high level of error in basic data sets (e.g. Phase 1)*

*The result was that many decisions were made on effectively false premises:*

*leading to recognised biodiversity loss*



# What's Missing?

I've No Idea !



# What's Missing?



EcIA

Checklist

Checklist

Performance

For

for

Criteria

Consultants

LPA Ecologists

EcIA

Checklist

Checklist

Performance

For

for

Criteria

Consultants

LPA Ecologists

limitations for the ecological work been provided in accordance with BS42020:2013 Clause 6.7 (including limitations associated with: survey methods, adequacy of equipment, reference to relevant desk top data, interpretation and analysis of results, competency of all ecological surveyors and personnel undertaking the impact assessment and design of mitigation)?						
7. Does the application justify how the proposals are in accordance with relevant legislation and policy (where relevant)?	✓	✓		✓	✓	
8. Does the application make clear where a EPS derogation licence is required BEFORE commencement of any works on site OR prior to specific operations being undertaken (e.g. roof strip)?						
9. Does the application identify any key timing issues (e.g. site vegetation clearance or roof removal) that may constrain the proposed timing of development in some way?	✓	✓		✓	✓	
10. Has ecological work been undertaken in accordance with published good practice guidance?  If not, see Q.10 below.	✓	✓		✓	✓	
11. Has any deviation from standard survey requirements and published	✓	✓		✓	✓	

<p>good practice guidance been made clear, fully justified, and their implications for subsequent conclusions and recommendations made explicit in accordance with BS42020 Clauses 4.4, 6.3.6 to 6.3.9 and 6.7 (see footnote<sup>2</sup> for further information) ?</p>						
<p>12. Do all surveyors hold appropriate species licenses (where relevant) and/or have adequate competencies to carry the work undertaken?</p>	✓	✓		✓	✓	
<p>13. Does the application provide an indication of likely net losses and gains for biodiversity?</p>	✓	✓		✓	✓	
<p>14. Is the EclA adequate to inform the determination of the planning application?</p>						
<p>15. Are all necessary mitigation and enhancement measures included in the EclA or Biodiversity Mitigation Method Statement?</p>	✓	✓		✓	✓	
<p>I hereby confirm that the above appraisal of the EclA submitted is based on a thorough examination of the information provided and reflects my professional judgement to the very best of my ability.</p>			<p>I hereby confirm that the above appraisal of the EclA received is based on a thorough examination of the information provided and reflects my professional judgement to the very best of my ability.</p>			
<p>Name of consultant ecologist (please print)</p>		<p>Date:</p>		<p>Name of local authority ecologist (please print)</p>		<p>Date:</p>
<p>Signed</p>				<p>Signed</p>		

Adequate Desk Studies

Adequate Field Surveys

Summary of All Species and Habitats

Description of Likely Impacts

Explanation of Proposed Mitigation

Explicit Understanding of Limitations

Proposals Justified in Accordance with Policy & Law

Work Undertaken in Accordance with Published Good Practice

Deviations from Good Practice are Fully Justified

All Staff are Competent

Likely Net Losses and Gains

Is EclA Adequate to Inform Planning Decision

Signature .... Signed in Blood !

# CONCLUSIONS

We Need to Change Our Professional Culture

We Need to Learn From Mistakes

We Need to Challenge Each Other *Safely*

We Need a System of Simple Checks

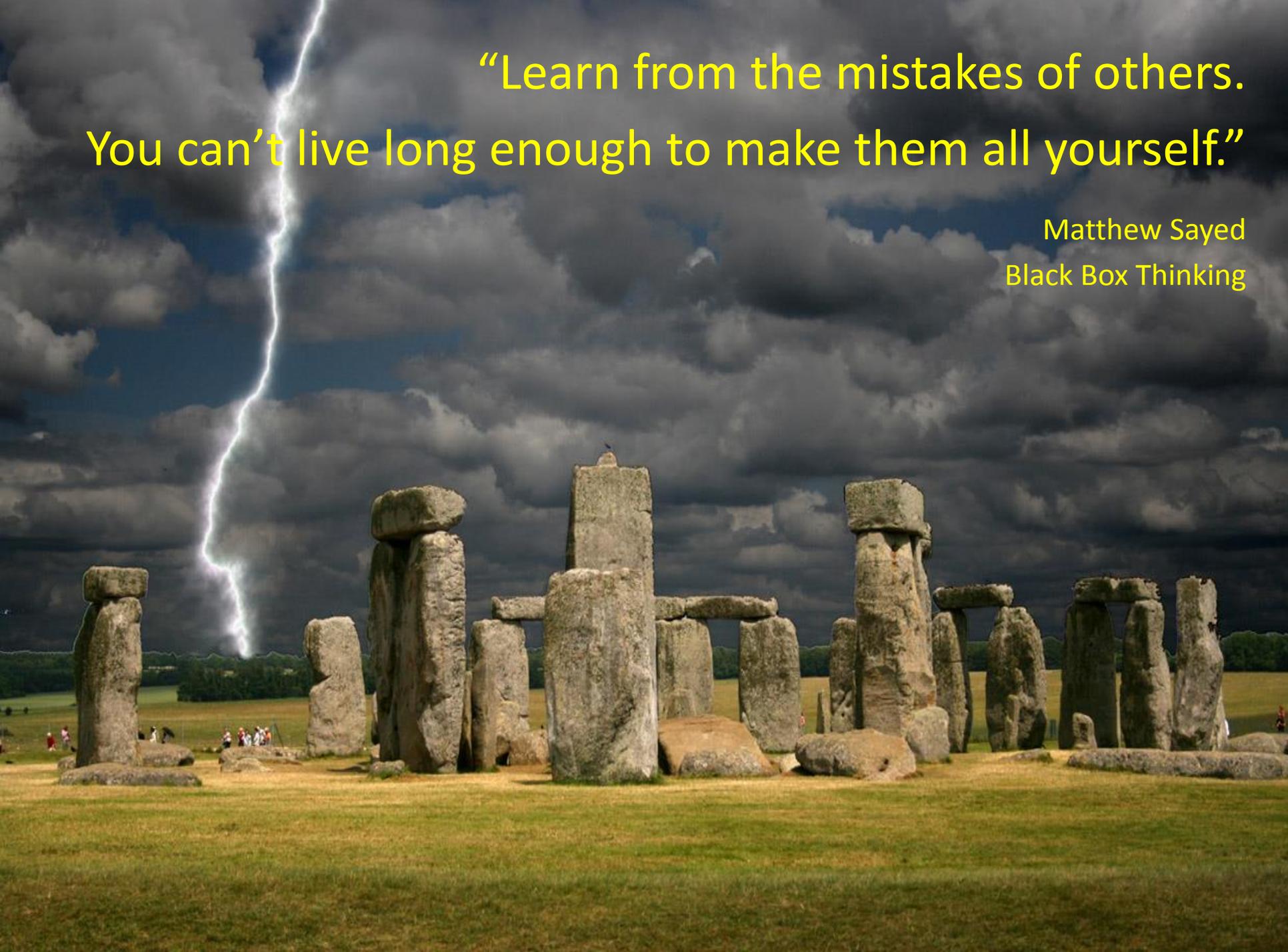
# Black Box Thinking

A stirring call to revolutionise how we think about success – by changing our attitude to failure

Failure shouldn't be shameful and stigmatising, but exciting and enlightening

“Learn from the mistakes of others.  
You can't live long enough to make them all yourself.”

Matthew Sayed  
Black Box Thinking



But for you to learn ...

The person next to you needs to '*share*' their mistakes !

But for you to learn ...

The person next to you needs to '*share*' their mistakes !

