

DESIGN PROCESS

an introduction

BY JOHN CROSS NEUMANN

DESIGN PROCESS is about EFFICIENCY

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there's no evidence efficiency improves results

STRUCTURED PROCESSES are not FLEXIBLE

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flexibility can be structured into the process

**DESIGN PROCESS is for
PRODUCT DEVELOPMENT**

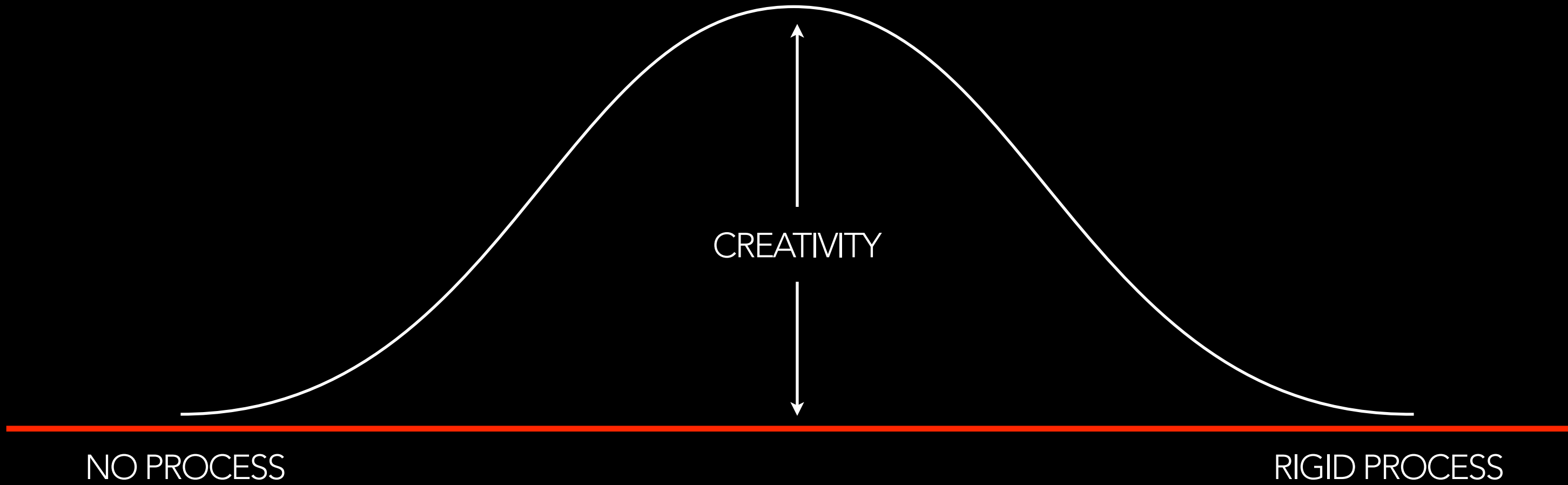
~~DESIGN PROCESS is for~~
~~PRODUCT DEVELOPMENT~~

process is an important creative tool for all aspects of design development

PROCESS restricts CREATIVITY

~~PROCESS restricts CREATIVITY~~

the design process increases creativity



"process is more important than
outcome. when outcome drives the
process we will only ever go where we've
already been.... Organization = Liberty."
-Bruce Mau

WHAT THE HELL IS IT?!?

design |dɒ'zɪn|

noun

a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is built or made : *he has just unveiled his design for the new museum.*

verb

decide upon the look and functioning of (a building, garment, or other object), typically by making a detailed drawing of it : *a number of architectural students were designing a factory*

design |də'zīn|

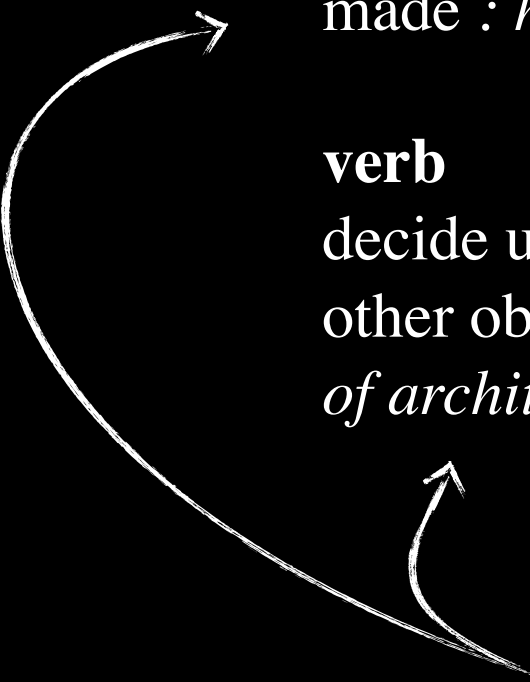
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"the solution" & is one of many acceptable possibilities

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- tangible requirements
- needs of all parties
- stakeholders' interests
- regulations
- many, many more

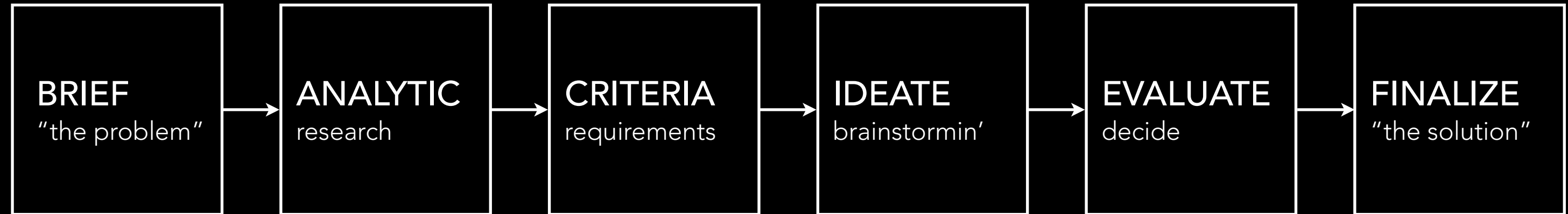
DESIGN PROCESS

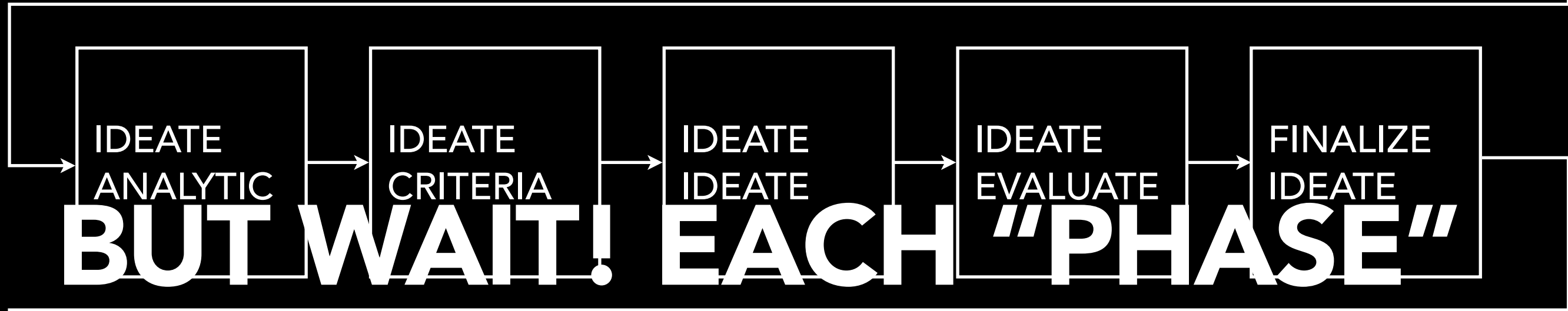
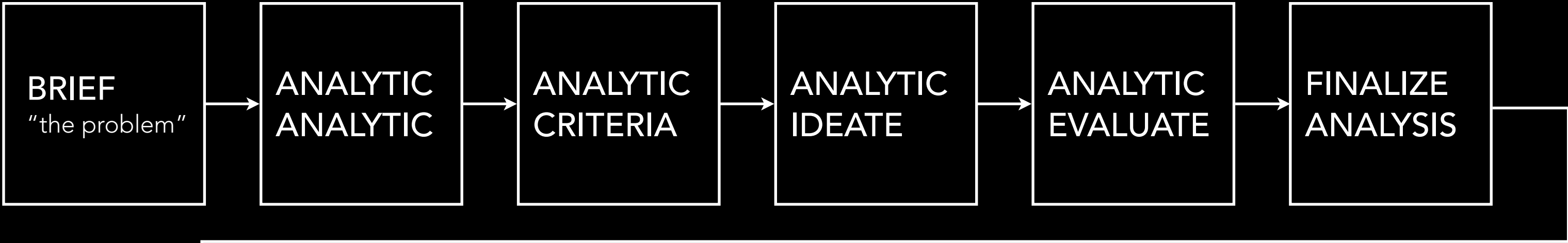
is

a verb in search of a noun.

STANDARD MODEL

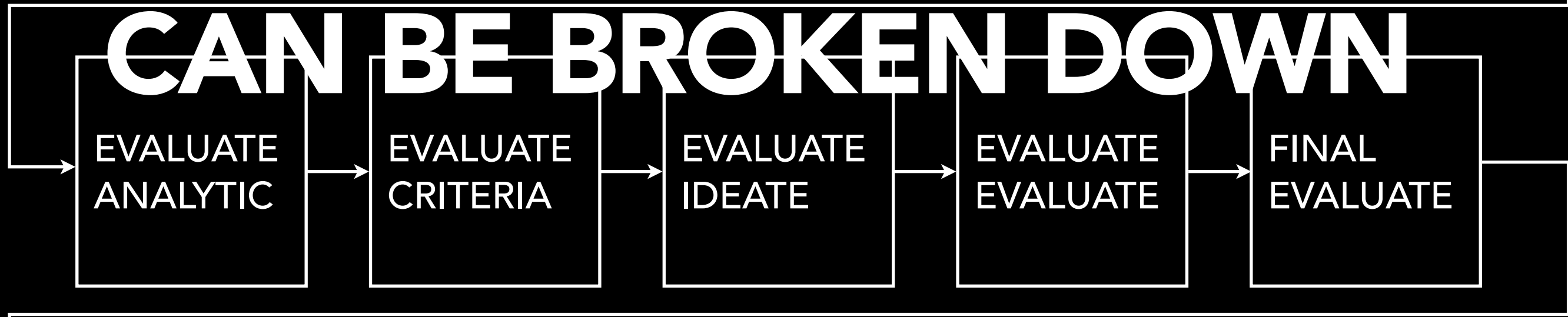
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BUT WAIT! EACH "PHASE"

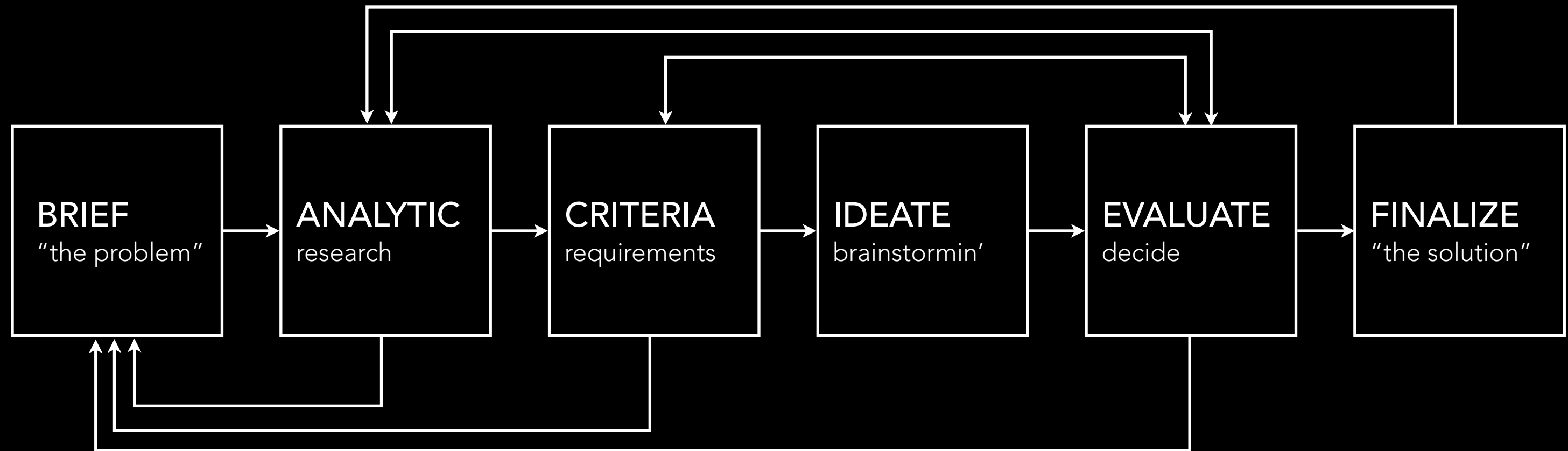
CAN BE BROKEN DOWN



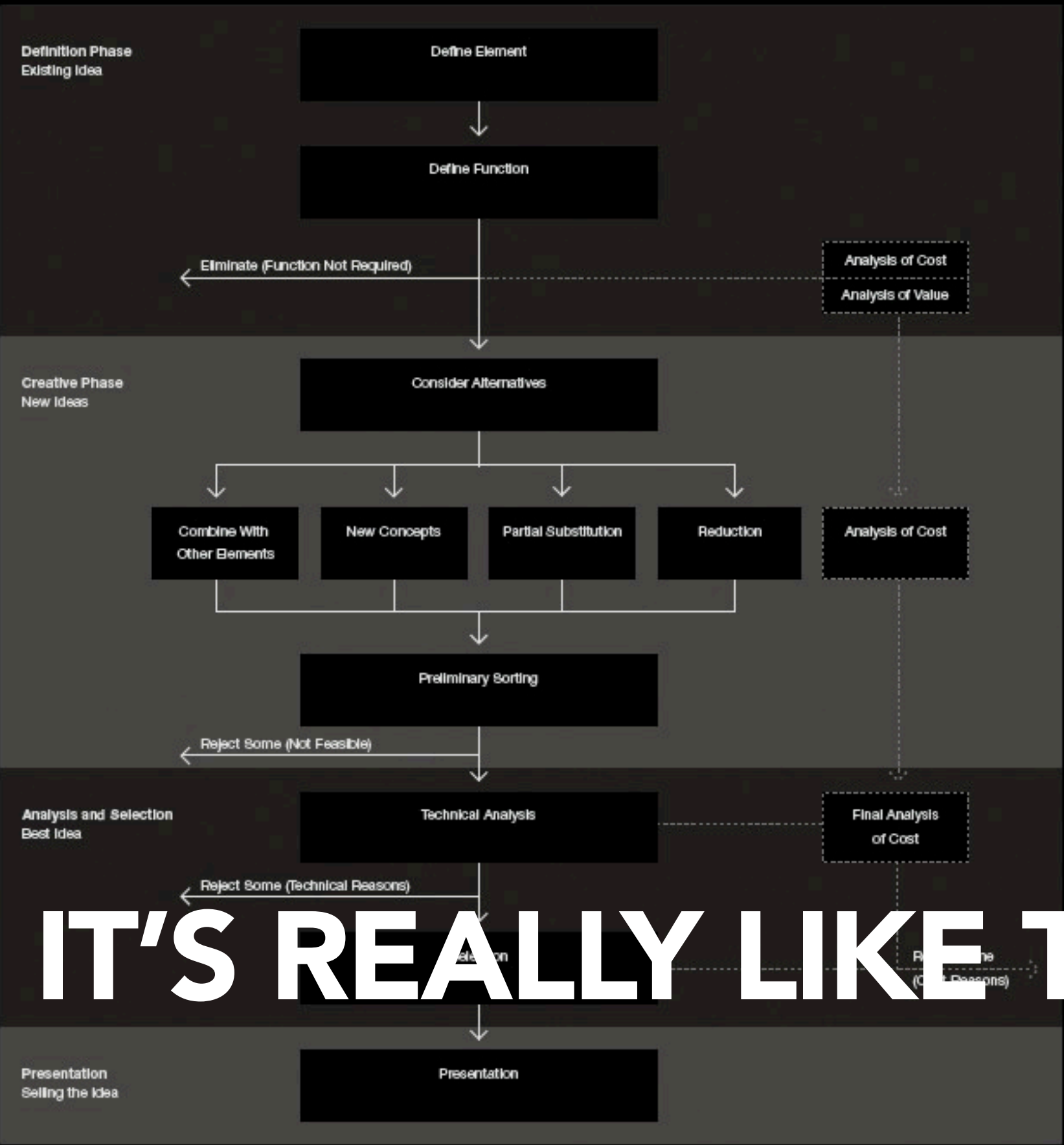
→ REPEAT FOR "PHASE 2"

STANDARD MODEL

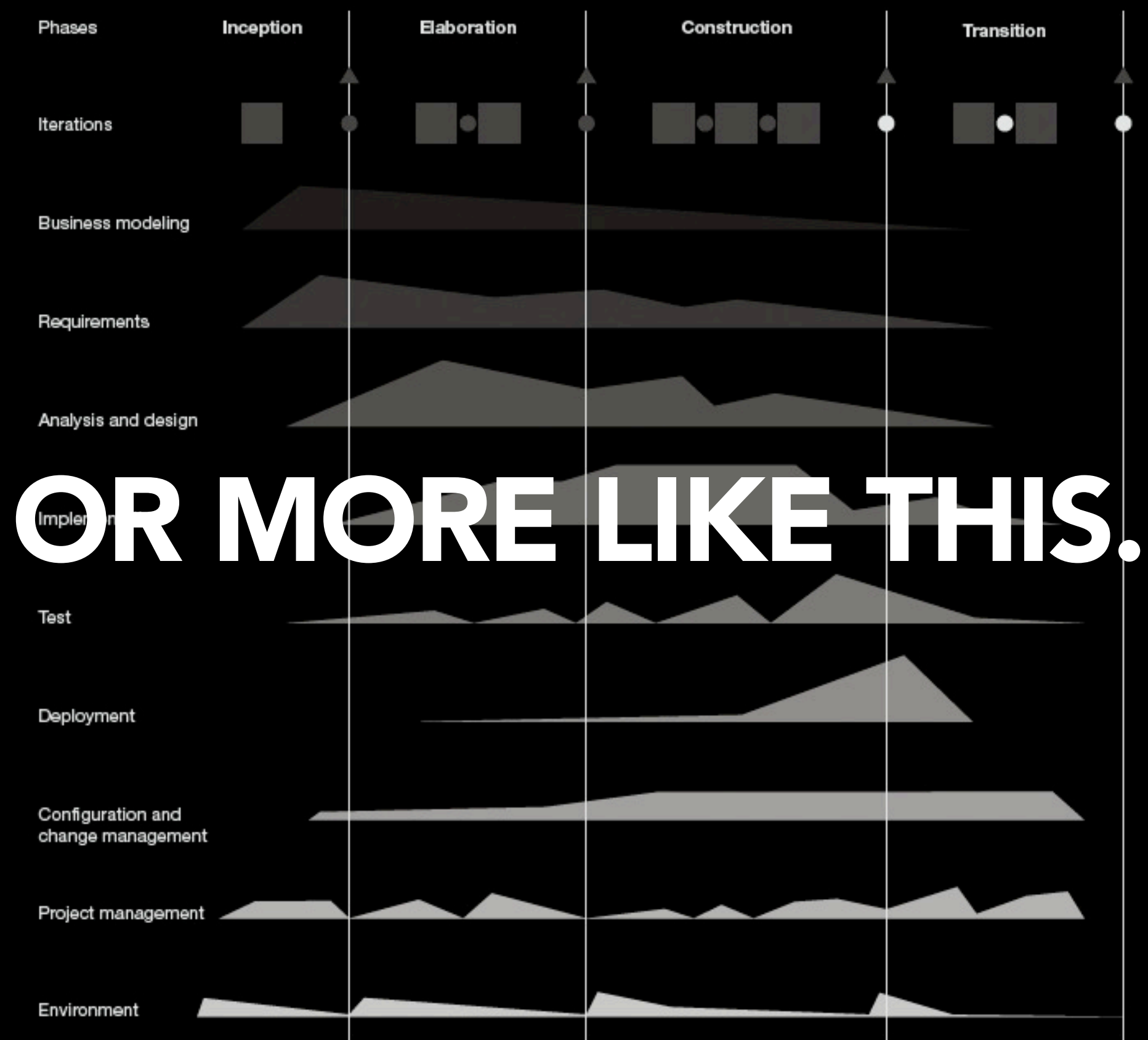
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OR LOOPED.



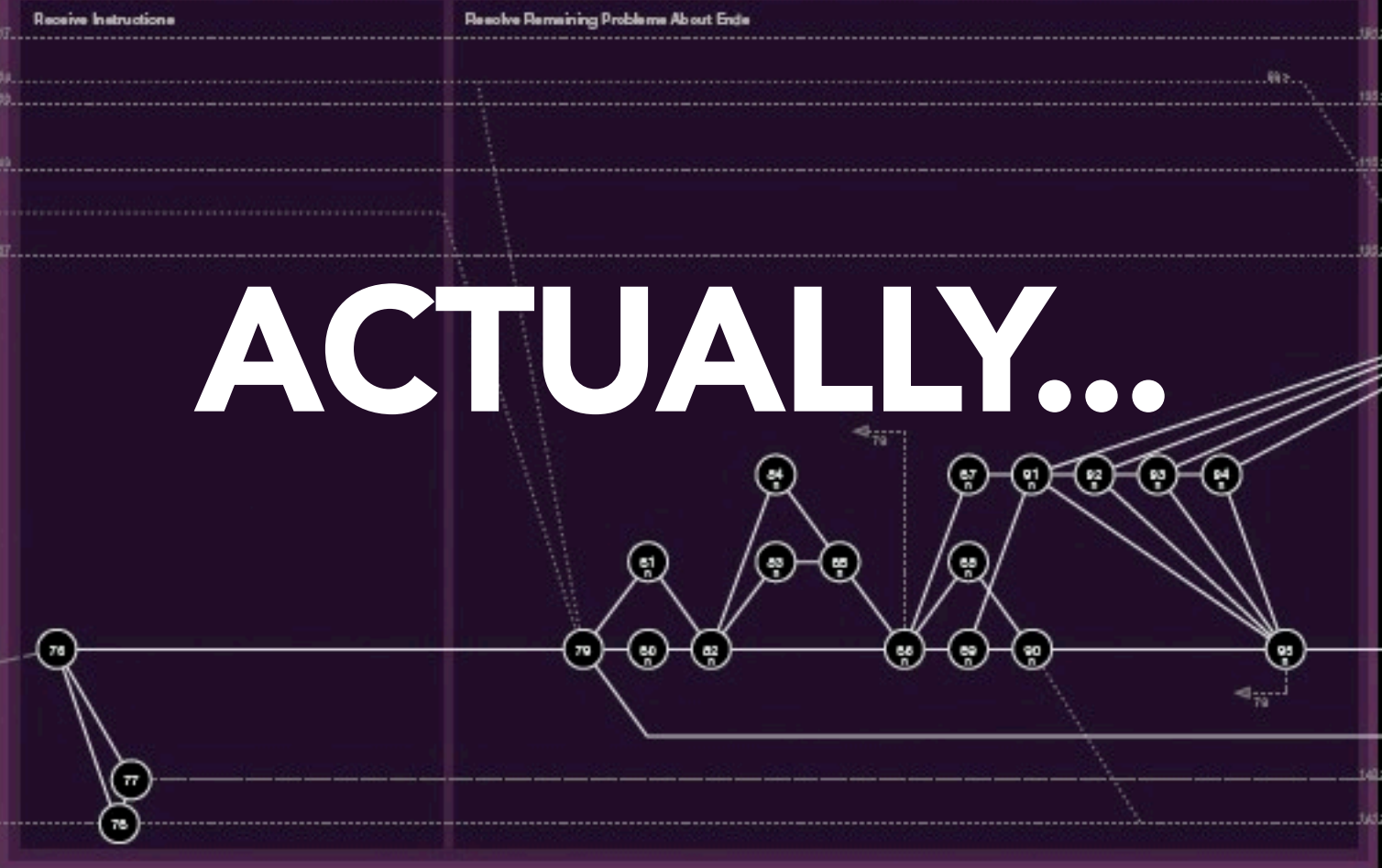
MAYBE IT'S REALLY LIKE THIS.



OR MORE LIKE THIS.

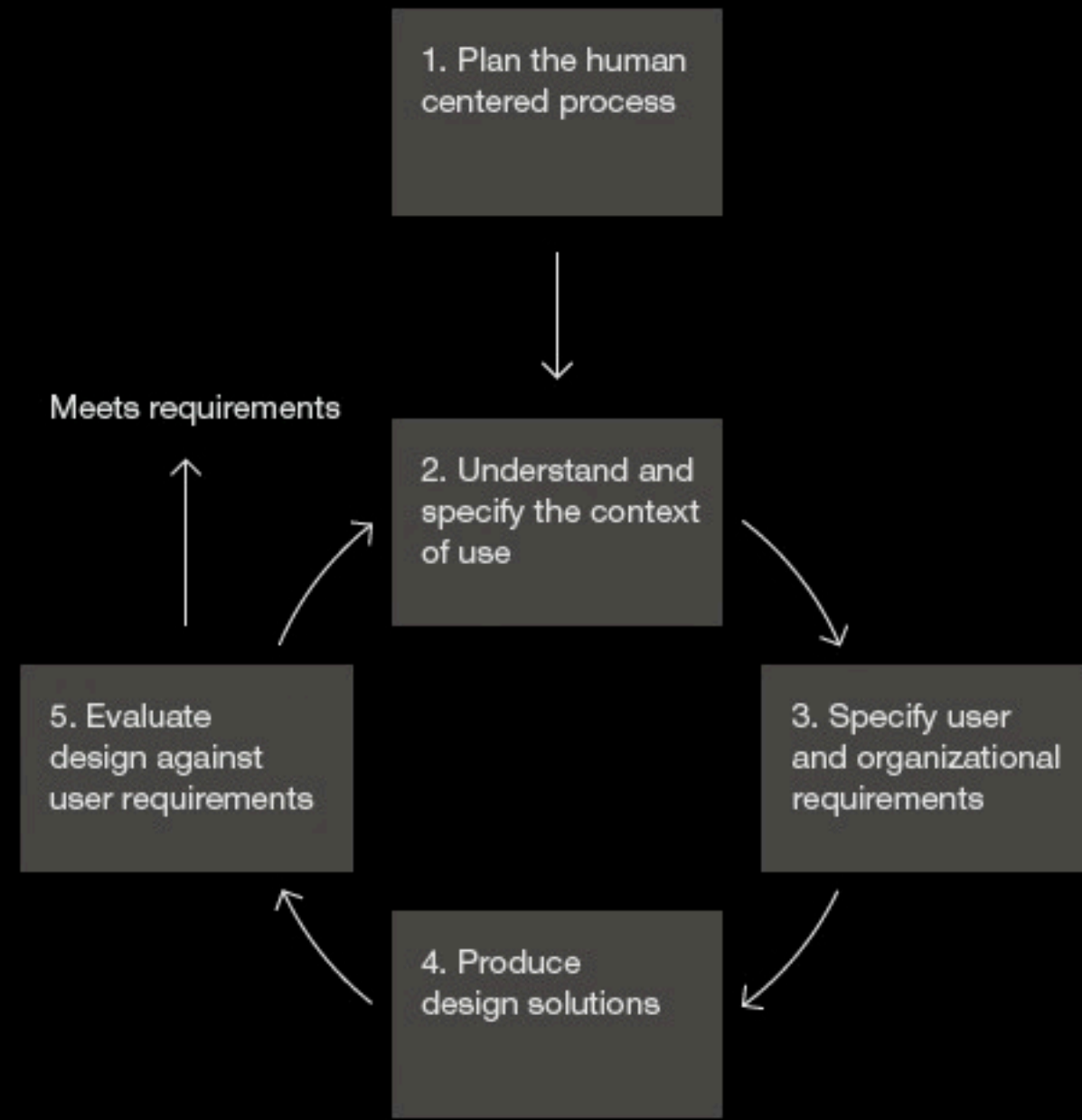
Phase 3

Synthesis



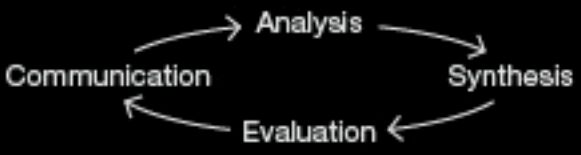
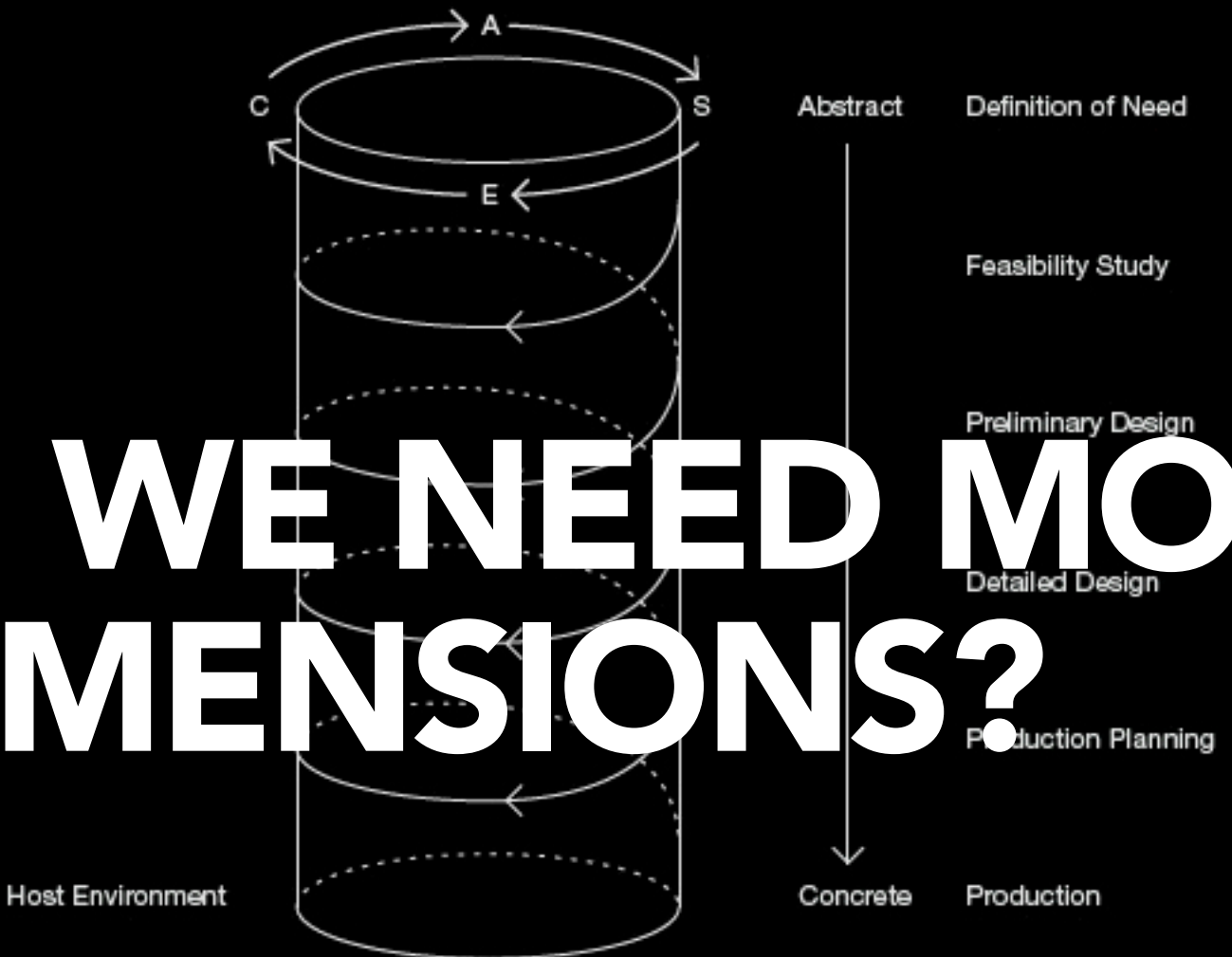
ACTUALLY...

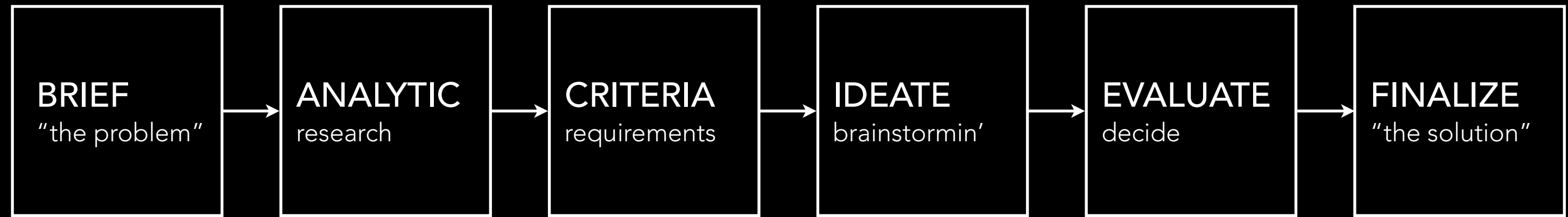
Item	Activity	Activity No	Event
5	Synthesis		
5.0	Receive Instructions	74-78	76 Commission Received To Execute Phase 3
5.0.1	Send Acknowledgment	76-77	77 Acknowledgment Dispatched
5.0.2	Bring Files And Progress Machinery Up To Date	75, 76, 77-78	78 Files And Progress Machinery Up To Date
5.4	Resolve Remaining Problems And Ends (Note That, In General, Solutions To Problems About Ends Will Pose Problems About Means)		
5.1.1	Reappraise The Performance Specification Prepared Under 4.3.8 And The List Of Intractable Problems About Ends Prepared Under 4.3.9 And Prepare A New List Of Unresolved Problems About Ends	84, 85, 86, 75-79	79 Revised List Of Unresolved Problems About Ends Ready
5.1.2	For Each Problem In The List Prepare Under 5.1.1, List The Factors In The Problem	79-80	80 List Of Factors In Sub-problem Ready
5.1.3	Identify The Goals To Be Achieved And The Constraints Or Conditions To Be Satisfied	79-81	81 Goals And Constraints Or Conditions For Sub-problems Identified
5.1.4	Establish The Connections Between The Factors (Or The Goals And Constraints Or Conditions)	81, 81-82	82 Connections Between Factors Established
5.1.5	Identify Similar Or Analogous Problems In Prior Experience	82-83	83 Analogous Problems In Prior Experience Identified
5.1.6	Identify Similar Or Analogous Problems Handled Elsewhere	83-84	84 Analogous Problems Handled Elsewhere Identified
5.1.7	Catalog The Properties Of The Analogous Problems And Reexpress Each Within A Common Format	83, 84-85	85 Analysis Of Analogous Problems Complete
5.1.8	Reexpress Present Sub-problem Within The Format Developed Under 5.1.7	82, 85-86	86 Re-expression Of Sub-problem Within Common Format Complete
5.1.9	Identify Those Factors In The Sub-problem For Which The Data Values May Be Voluntarily Fixed By The Designer	86-87	87 Factors Where Data Values Are Voluntarily Assignable Identified
5.1.10	Identify Those Factors In The Sub-problem For Which The Data Values Are Fixed By External Influences	86-88	88 Factors Where Data Values Are Externally Fixed Identified
5.1.11	Identify Those Factors Where The Data Are Dependent Variables (For Example, Where The Data Are The Solutions To Other Sub-problems). If Necessary, Suspend Work On This Problem And Select Another At 5.1.1 So That Sub-problems Are Dealt With In The Right Order	86-89	89 Factors Where Data Are Dependent Variables Identified
5.1.12	Collect Necessary Data (Either Extract Data From Record System 3.2.5 Or Add Fresh Data)	89, 89-90	90 Necessary Data Ready
5.1.13	Where Sufficient Precise Data Is Not Available, Postulate Simplifying Assumptions Or Assign Values By Plausible Reasoning	87, 89, 89-91	91 Simplifying Assumptions Postulated And/or Data Values Assigned
5.1.14	Where Not Practical Solution Emerges, Vary One Of The Voluntarily Assigned Values And/or Assumptions (See 5.1.9 And 5.1.13) And Seek Easements	90, 91-92	92 No Solution; Assigned Values And/or Simplifying Assumptions Varied
5.1.15	Where This Fails, Reappraise Constraints (See 5.1.10), And Seek Easements	92-93	93 No Solution; Constraints Or Conditions Eased
5.1.16	In The Last Resort, Reappraise Goals (See 5.1.3) And Seek Variation	93-94	94 No Solution; Goals Varied
5.1.17	Resolve Problem, Defining Maximum Field Of Feasible Solutions	90, 91, 92, 93, 94-95	95 Solution To Sub-problems Ready



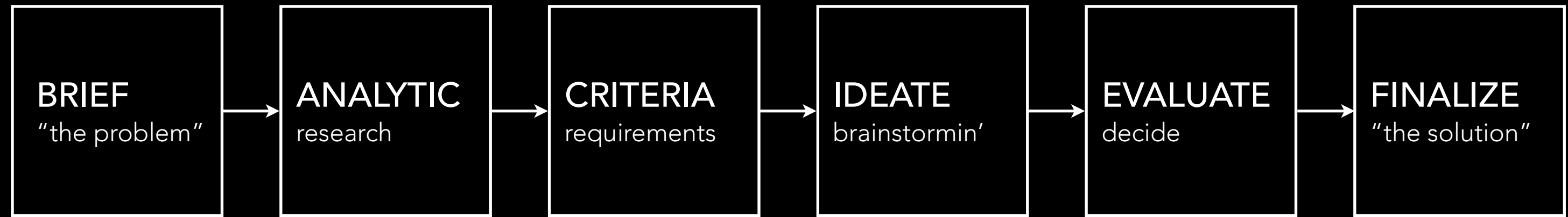
...IT'S KIND OF HARD TO MAP.

MAYBE WE NEED MORE DIMENSIONS?

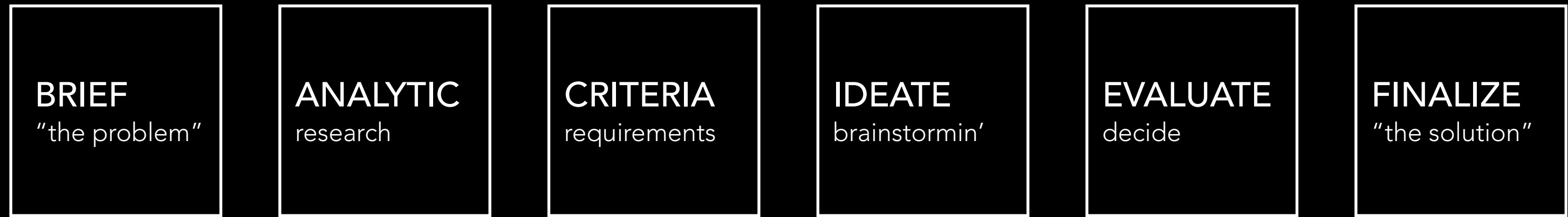




**JUST BECAUSE WE HAVE
TROUBLE MAPPING IT,
DOESN'T MEAN WE
SHOULDN'T USE IT.**



**DESIGN IS JUST
SYSTEMATIC PROBLEM
SOLVING. IT'S NOT MAGIC, WE
DON'T OWN IT.**



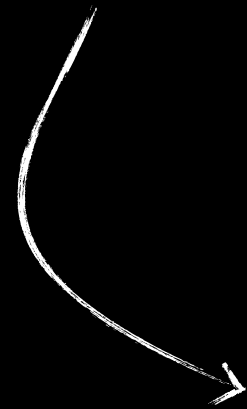
**THINK OF IT AS PARTS WE CAN
ARRANGE (AND REARRANGE)
AS NEEDED.**

BRIEF

"the problem"

- client or externally presented
- unique problem
- exists within larger and smaller systems
- requires subjective interpretation
- evolves over the course of the process

NEW!



SCHEDULE
alignment

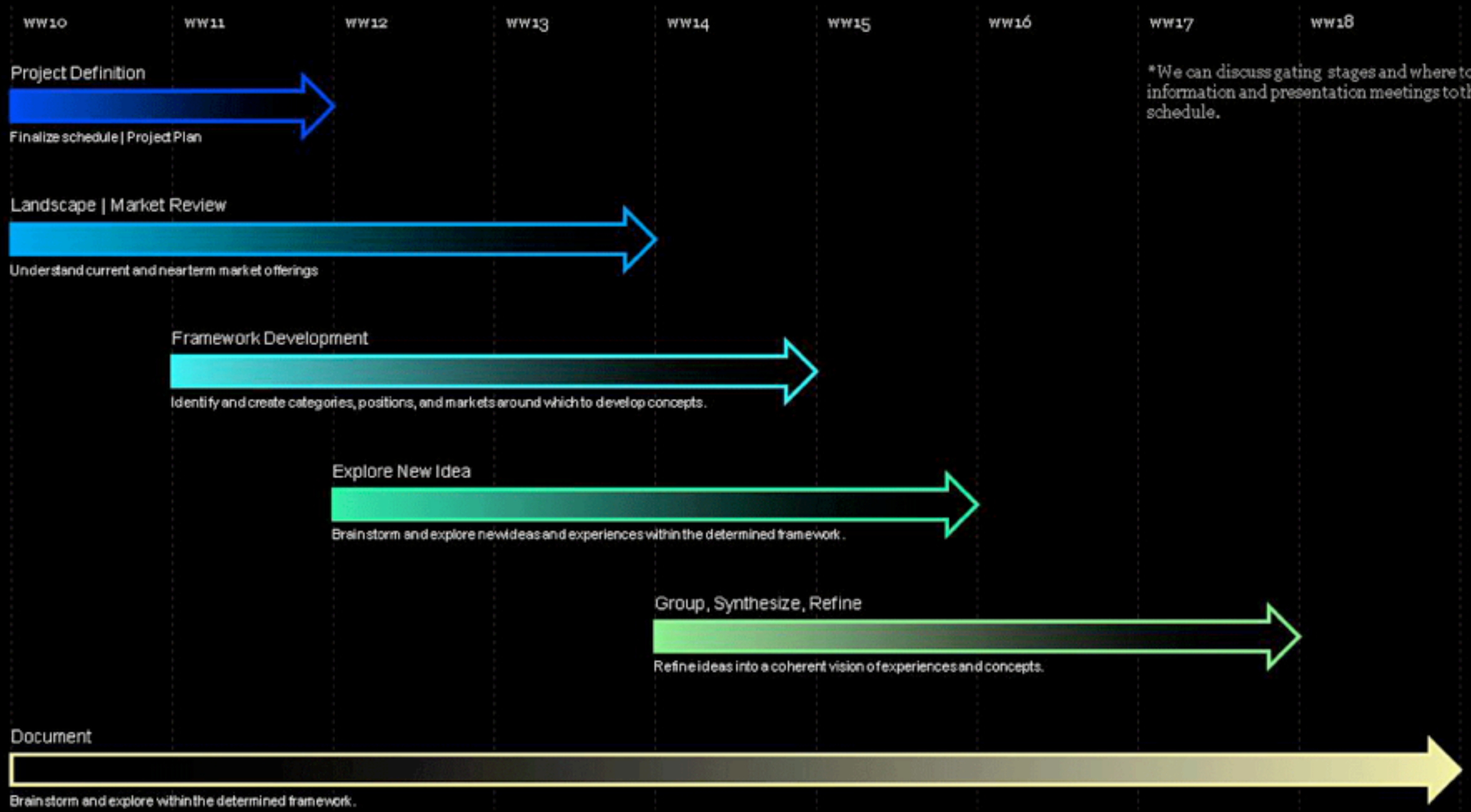
Process:

- provides direction as needed
- educates clients

+ Time

- aligns dependencies
- forces decisions

Proposed Schedule – Draft*

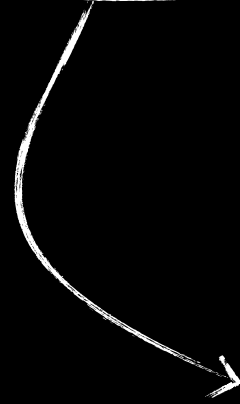


*We can discuss gating stages and where to add information and presentation meetings to this schedule.

ANALYTIC
research

- research
- "research"
- scenarios / narrative
- market / landscape review
- inform both problem and requirements

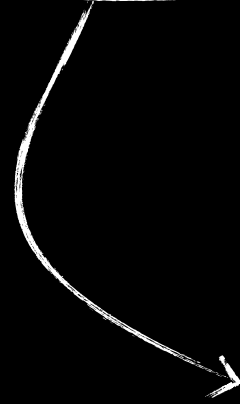
UNDERRATED!



CRITERIA
requirements

- framework for evaluation
- constrains problem
- highly influential in end result

OVER RATED!



IDEATE
brainstormin'

- solutions, not ideas
- mind maps, lateral thinking, blue sky, et. al.
- exploration

EVALUATE
decide

- ideas vs. problem (through criteria)
- perhaps regroup, reframe, restart?

SYNTHESIS
refine

- bringing ideas together
- begin repeating the process with more resolution

SOLUTION
the "design"

- a number of acceptable solutions exist
- no "optimal" solution. all inevitably involve compromise.
- holistic responses
- concrete - prescriptive
- uniqueness is the result of the process, not an idea
- ultimately, design solutions are hypotheses

BRIEF
"the problem"

SCHEDULE
alignment

ANALYTIC
research

CRITERIA
requirements

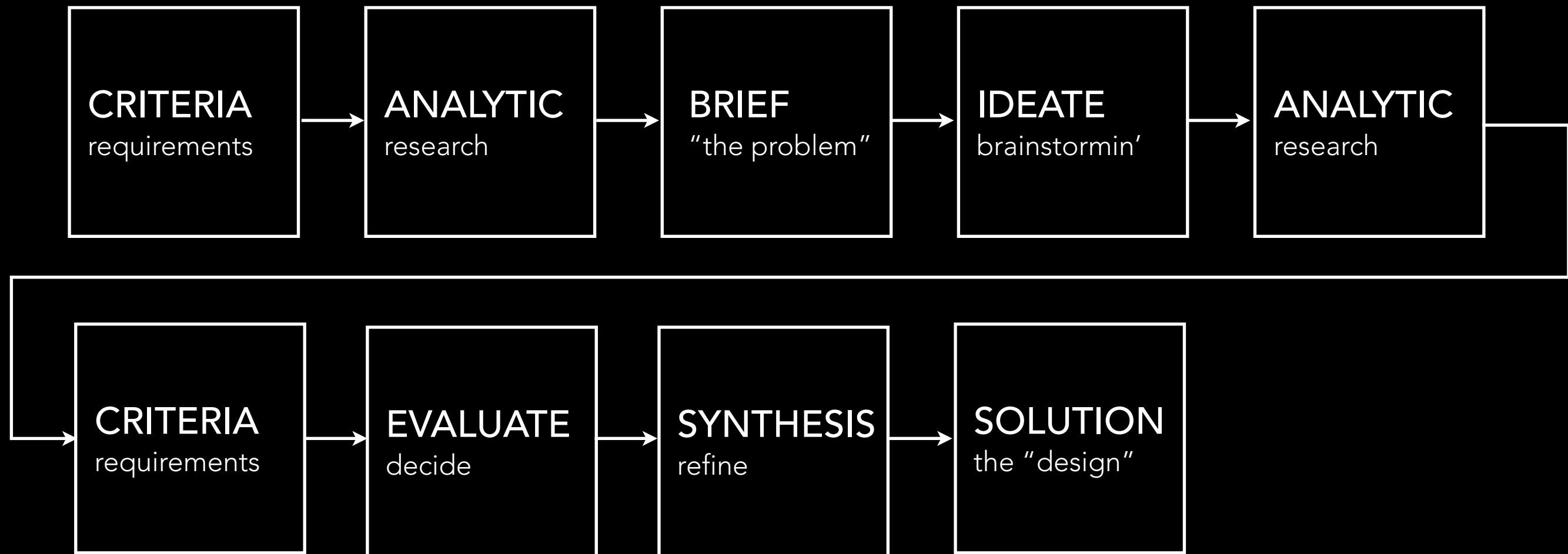
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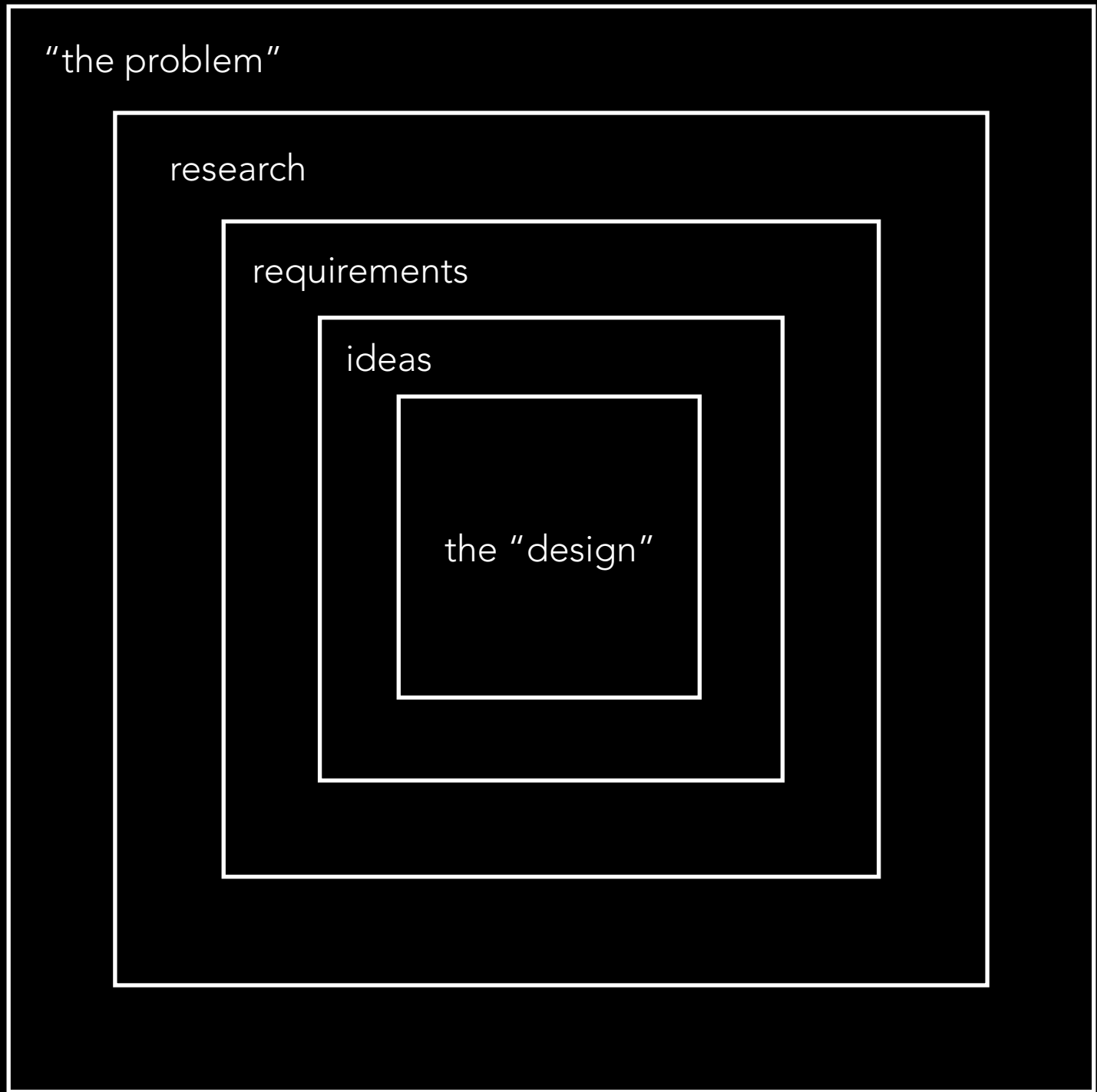
EVALUATE
decide

SYNTHESIS
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SOLUTION
the "design"

**PARTS WE CAN ARRANGE
(AND REARRANGE) AS
NEEDED.**





DESIGN PROCESS

is

an outline for turning abstract emotions, issues, and problems into physical, concrete solutions

DESIGN PROCESS

**provides
a framework for making
informed decisions--the core
activity of design.**

DESIGN PROCESS

creates

**bounding constraints that
demand creativity.**

DESIGN PROCESS

provides

**a mechanism for understanding
and evaluating success.**

DESIGN
is
messy business.

DESIGN PROCESS

**gives you
confidence and logic in your
work.**

THANKS!