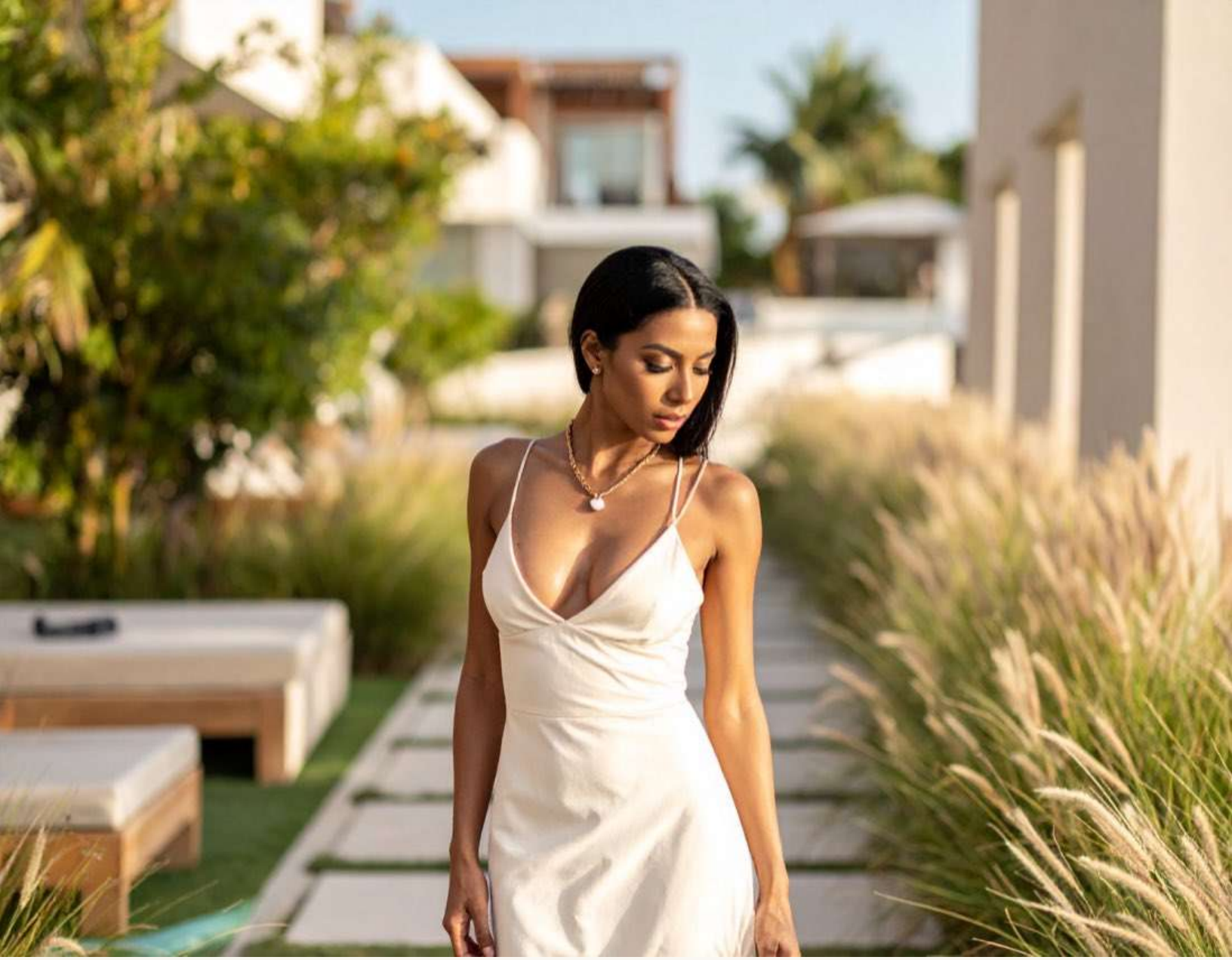


THE SECOND BRIEF · CHAPTER THREE

Where the Loop Leaks

Chapter Three of The Second Brief

Ammanuel Santa Anna

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THE LICENCE

Where the Loop Leaks
Chapter Three of The Second Brief

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Chapter Three of The Second Brief. The whole book, with every chapter, is at business.hautelumiere.life/library/the-second-brief (DOI https://doi.org/10.5281/zenodo.23989141).

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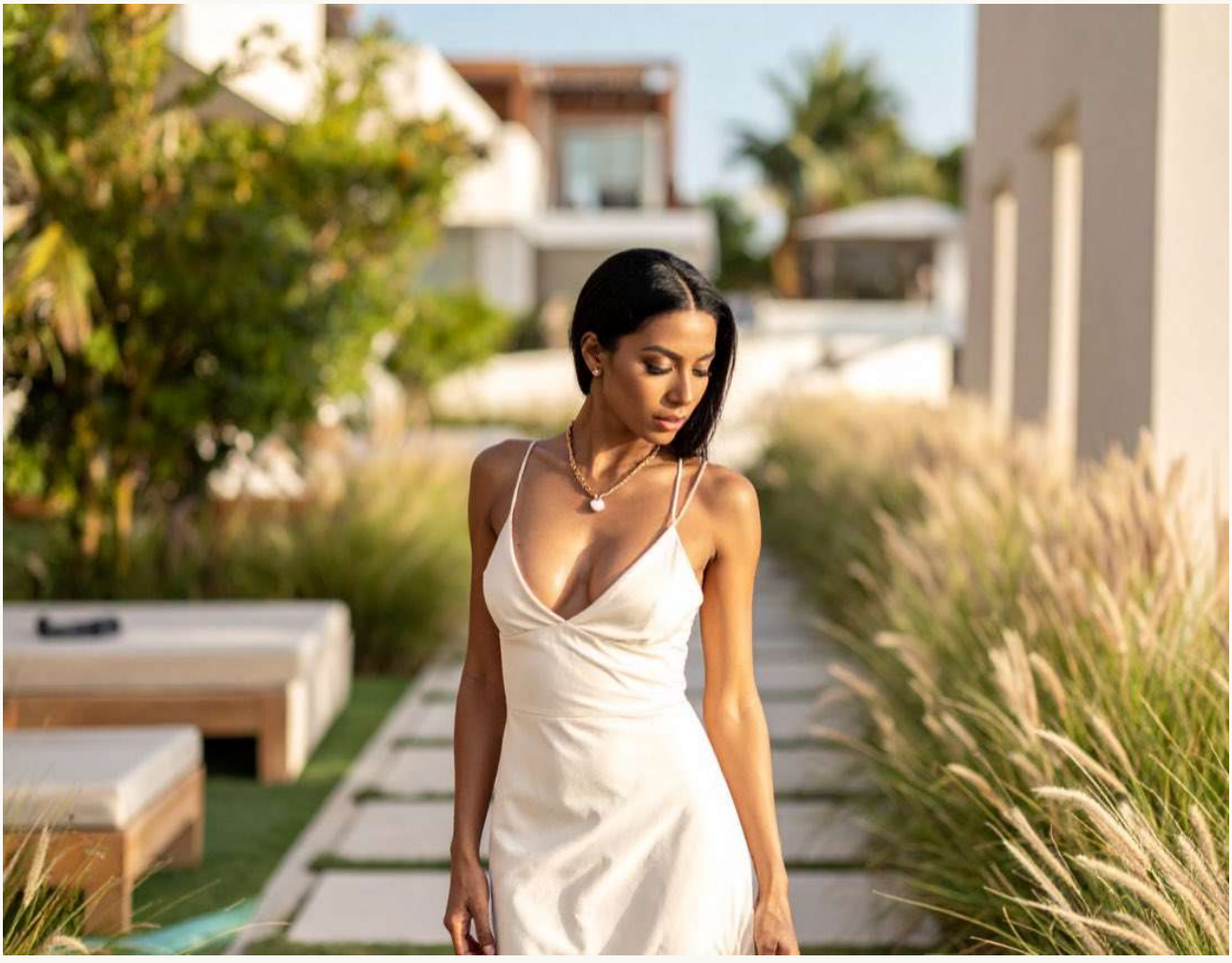
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ABSTRACT

The diagrams are beautiful, and that is part of the problem. A circular economy is usually drawn as two loops, one for materials that return to the soil and one for materials that return to the factory, with arrows that close neatly at the top. Nothing in the drawing leaks. Nothing wears out. Nothing is burned for heat. Nothing is added to the pile of buildings and roads that a growing economy accumulates each year. The drawing is a statement of intent, and it is often read as a description. The second chapter in this book (chapter 2) traced the idea from Kenneth Boulding's closed capsule of 1966 to John Fullerton's eight principles of 2015, and set out the difference between a brief that asks for less harm and a brief that asks for more life. This chapter is the fair critique. It takes five problems the research has raised, states each as strongly as its authors would, and then says how a practitioner works through it. None of the five is a reason to abandon the idea. Each is a reason to use it with the measuring instruments switched on.

CHAPTER THREE

Where the Loop Leaks



Where the Loop Leaks

HAUTE LUMIÈRE · THE SECOND BRIEF · CHAPTER THREE

A drawing with no leaks

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The second chapter in this book (chapter 2) traced the idea from Kenneth Boulding's closed capsule of 1966 to John Fullerton's eight principles of 2015, and set out the difference between a brief that asks for less harm and a brief that asks for more life. This chapter is the fair critique. It takes five problems the research has raised, states each as strongly as its authors would, and then says how a practitioner works through it. None of the five is a reason to abandon the idea. Each is a reason to use it with the measuring instruments switched on.

Ammanuel Santa Anna's own writing on the subject is unusually ready for this. In the *High Frequency Workbook*, in a chapter on learning from nature, he stops to say what should be held loosely:

> *The leap from "nature does X" to "therefore humans should do X" is not always straightforward.*[19]

That sentence is the right posture for everything that follows. The idea is good. The leap is the part to check.

How circular the world is

The first problem is scale, and it was measured before most of the pledges were written. In 2015, Willi Haas, Fridolin Krausmann, Dominik Wiedenhofer and Markus Heinz traced every material flow in the world economy for the year 2005, from extraction to disposal, and asked how much of it went round.[20]

Their figures are worth writing out. Roughly 4 gigatonnes of waste materials a year were recycled. That flow was set against 62 gigatonnes of materials processed by the world economy and 41 gigatonnes of outputs. Four out of sixty-two is a little over six per cent; the division is this book's, the figures are theirs. They gave two reasons for the low figure. First, 44 per cent of processed materials were used to provide energy, burned as fuel or eaten as food, and so were not available to be recycled at all. Second, the stock of buildings, infrastructure and durable goods was still growing fast, with net additions of 17 gigatonnes a year: material that is not waste yet, and will not be for decades.

The study's conclusion is the sharpest critique of the drawing with two loops. Strategies aimed at the end of the pipe, at recycling what is thrown away, are limited by the proportions of the flows. Most material never reaches the pipe. What moves the figure, the authors argue, is a shift to renewable energy and a significant reduction in the growth of the stock.

The route through. This is not a reason to stop recycling. It is a reason to stop treating recycling as the main event. A practitioner reading Haas and colleagues reorders the three loops named in the second chapter: repair and longer life first, because they slow the growth of the stock; by-product exchange

second; material recovery last. And the energy a firm uses becomes part of its circular plan rather than a separate line in someone else's report, because energy is the largest flow that never comes back.

What the study cannot show is how any one firm or city compares. It is a global and European account for one year. A firm has to measure its own.

Thermodynamics does not negotiate

The second problem is older than economics. Every time a material is used, some of its quality is lost: fibres shorten, alloys mix, coatings contaminate, and energy disperses as heat. Jouni Korhonen, Antero Honkasalo and Jyri Seppälä, in a 2018 article in *Ecological Economics* titled "Circular Economy: The Concept and its Limitations", argue that the concept, as commonly used, lacks scientific depth: a collection of ideas from several fields rather than a worked theory. Assessing it against the goal of environmental sustainability, they identify six challenges that must be met before the circular economy can contribute to global net sustainability, and the limits set by thermodynamics and by system boundaries are among them.[21] A loop can be slowed and made tighter. It cannot be made perfect, because the second law guarantees that each pass costs something.

The system-boundary challenge is the quieter one, and for a practitioner the more immediately useful: a circular economy is usually drawn for one firm, one product or one region, and the boundaries of the drawing decide what counts as closed. A loop that is closed inside the factory may be wide open at the mine.

The route through. Treat circularity as a rate of decay to be slowed, not a circle to be completed. In practice that means asking, for each material, how many useful passes it can make and what quality it keeps on each, and designing for the first pass to be long rather than for the tenth to be possible. It also means drawing the boundary on purpose and writing it down, so that a reader of the plan knows which loop is claimed to close and which is not.

Closing a loop can grow the pile

The third problem is the most counter-intuitive and, for a practitioner, the most important. In 2017, Trevor Zink and Roland Geyer published "Circular Economy Rebound" in the *Journal of Industrial Ecology*.[22] Their argument runs as follows. The appeal of the circular economy is that secondary production, from recovered materials and refurbished goods, replaces primary production from virgin ones. But that only helps if it actually replaces it. If the secondary product is not a perfect substitute, or if it is cheaper and so lowers prices and increases how much is bought, total production can rise. The lower impact per unit is offset, partly or fully, by more units.

They named the effect by analogy with the energy-efficiency rebound long known to economists, and they described two mechanisms in particular: the limited ability of secondary products to substitute for primary ones, and price effects. Their article argues that proponents of the circular economy "have tended to look at the world purely as an engineering system and have overlooked the economic part".[22]

A concrete version: a firm that sells refurbished phones at a lower price does good if its customers would otherwise have bought a new one. If the refurbished phone is bought as a second device by someone who keeps the first, the net effect may be one more phone in the world.

The route through. Every circular product carries a question its maker should be able to answer: *what does this displace?* The test at the end of this chapter asks it directly. A refurbishment business can design for displacement by offering trade-in, so the old device comes back as the refurbished one goes out. A food business that turns its waste into a new product can check whether that product is replacing something or simply adding to the shelf. Zink and Geyer's work is a theoretical argument with examples, not a measurement of how large rebound is in any sector, and that is exactly why a firm has to measure its own.

The trouble with copying nature

The fourth problem sits closest to the house's own lens. The circular economy, industrial ecology and biomimicry all lean on the same move: nature has no waste, so neither should we. The analogy is persuasive and, taken literally, wrong in several places.

Henry Dicks, in a 2016 article in *Philosophy & Technology* called "The Philosophy of Biomimicry", sets out what a philosophy of the field would have to answer. He finds four areas of inquiry: the nature of Nature itself, and then the three principles the biologist Janine Benyus gave the movement, nature as model, as measure and as mentor, which he reads as a poetic, an ethical and an epistemological question respectively.[23] The practical upshot is that "copy nature" is three different claims dressed as one: that nature supplies designs, that it supplies a standard for judging designs, and that it supplies a way of learning. Each needs its own defence. Nature is efficient in some respects and lavish in others. An oak drops thousands of acorns for each tree that grows. Ecosystems collapse, invade and burn. The lesson "do what nature does" can justify almost anything, including waste.

Santa Anna's workbook makes the same point in its own words, a few lines below the sentence quoted above:

> *Romanticizing nature can be its own form of bypass — nature is also violent, indifferent, and brutal. We are learning from its patterns of thriving, not pretending it's a garden of peace*[19]

The route through. Use biology as a source of questions, not of permissions. The useful questions are specific: what happens to this output in the next process; how many uses does this material serve before it de-

grades; where is the redundancy that lets the system survive a failure. The unhelpful move is the general one, *nature does it, so it is right*. The fourth chapter in this book reads the living-systems lens closely and keeps to the specific questions for exactly this reason.

The word that means anything

The fifth problem is the word *regenerative* itself. It has spread faster than its definition. In agriculture, where it is most used, Peter Newton and colleagues reviewed 229 journal articles and 25 practitioner websites in 2020 under the title "What Is Regenerative Agriculture?"[24] Most of the articles that used the term neither defined nor described it. Of those that did, some defined it by the practices a farm uses, some by the outcomes it achieves, and the largest group by both. The authors declined to propose a single definition and suggested instead that each user of the term define it "comprehensively for their own purpose and context". A farm can be called regenerative for adopting cover crops whether or not its soil improves, or for improving its soil whatever it does.

The same slippage is visible in business. A firm can call itself regenerative for a reforestation pledge while its core operations are unchanged. The second chapter noted that the circular economy has at least one hundred and fourteen definitions in the literature. *Regenerative* is on course to have more.

The route through. Define by outcome, and name the stock. The second chapter's ledger asked a firm or a household to choose one stock it depends on and to describe its condition in a way someone else could check. That is the defence against the empty word. A claim that something is regenerative should come with the stock it regenerates and the evidence that the stock is in better condition than before. Without both, it is a description of intent, and should be called one.

The bottleneck is not information

Behind the five problems sits a sixth, which the research names less often and Santa Anna's book names directly. The data on material flows, on climate and on soil have been available for decades. Plans built on them have not followed at the pace the data would suggest. The book's diagnosis is blunt:

> *The information hasn't been the bottleneck. The bottleneck is somatic*[25]

The claim is that extraction persists not because people lack the figures but because a nervous system organised around scarcity experiences restraint as danger. In the *High Frequency Workbook*, describing what he calls the scarcity trance, he is specific about where it lives: "The scarcity trance is not a thought. It is a somatic state".[26] The book applies the same reading to institutions: a firm under pressure tends to defend the throughput it knows rather than invest in the stock it depends on.

The evidence for a physiological account of institutional behaviour is thin, and this book says so; it is an interpretation, offered by the author as a lens, not a finding. What it explains well is a pattern any manager will recognise. Circular projects are approved in good years and cut in bad ones, because in a bad year the old brief feels safe and the new one feels like a luxury. That is the moment the plan most needs to hold.

The route through. Build the second brief into the routines that run in bad years: the monthly ledger, the supplier review, the capital request form. A practice that has to be argued for every time it is used will be dropped under pressure. A practice that is simply how the form is filled in tends to survive.

The case studies, read carefully

There is one more critique, and the house should make it of its own sources. The literature on regenerative business leans heavily on a small number of celebrated cases: Interface, the carpet maker whose founder Ray Anderson set out in the 1990s to make it restorative; Patagonia, whose founder transferred ownership to a trust and a non-profit in 2022; a handful of others. Santa Anna's book uses several of them, and it reports striking figures for Interface's reductions in emissions, waste and water alongside growth in profits.

Chapter 6 traces those figures as far as they can be traced, and the answer is instructive: most of them match what the company itself announced in 2019, for carpet tile production through 2018, and one of them, the claim about profits, is not in the company's announcement at all. Even the matching figures are the company's account, carried by trade press, not audited results a reader can open. That is not a criticism of the company. It is a description of the evidence. Figures of that kind are usually self-reported, measured against a baseline the company chose, and published by the firms that succeeded. The firms that tried something similar and failed rarely publish at all.

Statisticians call this survivorship bias, and it is the same weakness the house's papers have noted in the literature on other management ideas: the cases are chosen after the result is known. A celebrated case shows that a thing is possible. It does not show that it is likely, or that the method rather than the founder, the market or the timing produced the result.

The route through. Read a case for its mechanism, not its headline. What did Interface actually change: which materials, which suppliers, which incentives, in which order? Those are questions a practitioner can carry to their own firm. The headline percentage is not. And where a firm's own regenerative claims are concerned, the defence is the one this chapter keeps returning to: write down the prediction before the change, name the stock and its condition, and measure afterwards. A firm that does that will have better evidence about itself than any case study can supply.

What the critics leave standing

Put the five critiques together and a narrower, stronger idea remains. The world economy is far from circular, and recycling alone will not change that. Every loop leaks. Closing one can grow the pile. Nature is a teacher with a mixed record. And the word is easily emptied. What survives is the brief itself: choose the stock, slow the decay, check the displacement, define by outcome, and build it into the forms. That is less than the drawing promised. It is more than most organisations currently do.

The companion book on complexity economics (*The Economy That Keeps Becoming*) takes up a related warning, that economies are evolving systems in which interventions produce effects their designers did not plan. The companion book on the doughnut (*The Standing Forest*) takes up the question Haas and colleagues leave open, how much the stock should keep growing at all. For a firm that wants to see the external pressures on its material and energy costs before it plans a loop, the house's PESTLE paper at hautelumiere.life is the place to begin.

The drawing with two loops is still worth keeping on the wall. It is better kept with a third arrow added in pencil, leaving the page at the bottom, labelled with what is lost.

The Tool: The Leak and Rebound Test

Six questions, put to any plan described as circular or regenerative, before it is approved. Each needs a written answer. A plan that cannot answer one is not rejected; it is returned with that question marked.

The plan- Name of the plan or product: __- Owner: _ · *date: - The verb it claims (reduce / sustain / regenerate):* ___

Question 1 · Which loop? (from Haas and colleagues, and the second chapter)- Is this repair or life extension / by-product exchange / material recovery? __- If material recovery, why not repair or exchange first? ____

Question 2 · Where is the boundary? (from Korhonen and colleagues)- The loop is claimed to close inside: the product / the site / the firm / the region / other __- What happens to the same material outside that boundary, upstream and downstream: ____

Question 3 · How many passes, and at what quality? (thermodynamics)

MATERIAL	USEFUL PASSES EXPECTED	QUALITY KEPT ON EACH PASS (FULL / REDUCED / DOWNGRADED)	WHAT IT BECOMES AT THE END

Question 4 · What does it displace? (from Zink and Geyer)- The circular product or service replaces: __- Evidence that buyers use it instead of, not as well as, the primary product: _- *Is it cheaper? If so, what is expec-*

ted to happen to total quantity bought: - One design change that would increase displacement (trade-in, take-back, lease): ___

Question 5 · Which stock, and how will we know? (from Newton and colleagues, and the second chapter)- The stock this plan is meant to leave in better condition: __- Its condition now, in words or a number someone outside could check: _- *The date by which a change should be visible, and how it will be checked: ___*

Question 6 · Will it survive a bad year? (from Santa Anna's somatic bottleneck)- Which routine form, review or budget line this plan is written into: __- What would have to be true for it to be cut, and who would decide: ____

Reading the answers. A plan with clear answers to questions 4 and 5 is worth more than a plan with an impressive answer to question 1. The order of the questions is the order in which plans usually fail: they choose the cheapest loop, draw the boundary where it flatters them, forget that each pass costs quality, add to the pile instead of replacing it, never name the stock, and are cut in the first bad quarter. A plan that passes all six is rare, and is the beginning of a regenerative practice rather than a statement about one.

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