Verdict Summary

The article mixes legitimate science with false claims and dangerous advice. Three findings are genuinely useful for the book. The rest ranges from overstated to irresponsible.

What's Real and Book-Worthy

1. The Gut-Skin Axis ("Dirty Tail" in Humans)

Status: Legit science, active research, Mendelian randomization evidence.

The koala connection Applebee intuited is real. Koala gut dysbiosis manifests as "dirty tail" — disrupted hindgut fermentation visible in the animal's waste and condition. In humans, gut dysbiosis manifests through the gut-skin axis:

- 54% of acne patients have documented gut dysbiosis (Deng et al., systematic review)
- Mendelian randomization studies (the closest epidemiology gets to proving causation) confirm causal relationships between specific gut microbial compositions and acne, eczema, psoriasis, rosacea
- Mechanism: disrupted intestinal barrier → LPS and inflammatory molecules reach skin via bloodstream → trigger inflammation via mTOR pathway
- Probiotics (Lactobacillus strains) show clinical efficacy in reducing acne severity
- For cellulite: Kruglikov (2023, *Obesity Reviews*) proposed gut dysbiosis → LPS accumulation in gluteofemoral adipose tissue → TLR4 activation → local fibrosis. Plausible mechanism, more speculative than acne evidence.

Book use: The koala's dirty tail and the teenager's acne are the same signal — gut dysbiosis expressing through the organism's external condition. Nobody tells a teenager with acne to fix their gut. They give them benzoyl peroxide. A zookeeper who saw dirty tail would immediately review the browse.

Key sources:

- Gut-Skin Axis review: PMC 7916842
- Acne & microbiome: PMC 9318165
- Cellulite pathophysiology: PMC 9772045
- Mendelian randomization: Skin Health and Disease 5(6), 2024

2. The Capuchin Monkey Dietary Comparison

Status: Real paper (Milton 1987), real finding, cherry-picked by Wai Diet but still useful.

Katherine Milton (UC Berkeley) compared gut proportions across primates. Human gut proportions (small intestine = 56-67% of total gut volume, colon = 17-23%) are statistically grouped with capuchin monkeys and savanna baboons — NOT with great apes (orangutans/chimps have colon = 52-54%).

The capuchin diet: sweet fruits, nuts, oily seeds, insects, eggs, small vertebrates.

What Milton actually argued: The gut proportion similarity reflects convergent adaptation to high-quality diets (humans via cooking + meat). She did NOT argue humans should eat like capuchins. The Wai Diet misrepresents her conclusion.

Book use: "If a zoo nutritionist were asked to design a diet for a captive primate with human gut proportions, and consulted the comparative morphology literature, the closest dietary analogue would be the capuchin monkey: sweet fruits, nuts, oily seeds, and small amounts of animal protein. Not bread. Not pasta. Not a cheese and salad sandwich on wheat."

Key source: Milton K (1987) "Primate diets and gut morphology" in Food and Evolution, Temple University Press, pp. 93-115.

3. Heterocyclic Amines (HCAs) from Cooking Protein

Status: Real, well-established food chemistry. Classified as probable/possible carcinogens by IARC.

HCAs form when amino acids, sugars, and creatine react at high temperatures (pan-frying, grilling, barbecuing). The Matsumoto 1981 study is real — 1g grilled beef contains as much of 2 specific mutagens (amino-alpha-carbolines) as 8 cigarettes. BUT: this compares only 2 of 70+ cigarette carcinogens. The overall cancer risk comparison is misleading.

Overstated by Wai Diet: Human epidemiological evidence for HCAs causing cancer at normal dietary levels is inconclusive. NCI: "Population studies have not established a definitive link between HCA and PAH exposure from cooked meats and cancer in humans." The doses in animal carcinogenicity studies were "equivalent to thousands of times the doses that a person would consume in a normal diet."

Book use: Already in Chapter 2 — acrylamide and hydroxymethylfurfural in the bread crust. HCAs strengthen the general point: cooking creates novel compounds. Whether these cause cancer at dietary doses is debated, but the koala-test point stands: a zoo nutritionist would flag them. Nobody flags them for humans.

Key sources:

- NCI Fact Sheet: cancer.gov/about-cancer/causes-prevention/risk/diet/cooked-meats-fact-sheet
- Matsumoto 1981: Cancer Letters 12(1-2):105-110 (PubMed 7272995)

What's Overstated or Wrong

Beta-Carbolines / "Cooked Food is Addictive"

- Compounds are real (harman, norharman form during cooking)
- Structurally related to indole alkaloids (share indole ring with serotonin, DMT)
- BUT: structural similarity ≠ functional equivalence. Aspirin and TNT both have benzene rings.
- No published study demonstrates addiction to cooked food via beta-carbolines

- At dietary concentrations, 2019 review found "more evidence for positive effects" (antioxidant, neuroprotective)
- **Verdict: Would undermine our credibility if cited.**

Wheat/Dairy Opioid Peptides "100x More Powerful Than Morphine"

- Casomorphins (dairy) and gliadorphins (wheat) ARE real peptides
- They DO bind opioid receptors in vitro
- **But the potency claim is FALSE.** Gluten exorphin B5, the strongest, is 1.2-4.2x WEAKER than leucine-enkephalin (itself a weak endogenous opioid). Substantially weaker than morphine, not 100x stronger.
- Most are destroyed during normal digestion. Only reach bloodstream in people with "leaky gut" or impaired DPP-4 enzyme activity.
- **Verdict: The peptides exist. The potency claim is fabricated. The bioavailability issue makes the whole argument largely moot for healthy adults.**

Fiber is Unnecessary/Harmful

- Ho et al. 2012 (World J Gastroenterology) IS real: 63 constipation patients improved on no-fiber diet
- BUT: no control group, no randomization, no blinding, n=63, specific clinical population
- Contradicted by: meta-analysis of 64 prospective studies showing fiber reduces all-cause mortality 23%, CVD mortality 26%, cancer mortality 22%
- Directly contradicts our own Chapter 2 evidence: Hadza 100-150g/day fiber, 40% more diverse microbiome
- **Verdict: One tiny uncontrolled study vs millions of participants. Wrong.**

Dairy Growth Factors / Cancer

- Dairy DOES raise circulating IGF-1 (well-established)
- Higher IGF-1 modestly associated with prostate cancer (9% increase per SD)
- But effect sizes are small, and dairy shows PROTECTIVE effects for some cancers (colorectal)

- **Verdict: Real but modest. Not the smoking gun the article implies.**

Oxysterols / "Real Cause of Bad LDL"

- Oxysterols form during cooking cholesterol — real
- Harmful in animal models — real
- "No direct evidence yet in humans that oxysterols contribute to atherogenesis"
- The claim that oxysterols replace cholesterol as the cause of CVD is fringe
- **Verdict: Interesting hypothesis, insufficient evidence.**

"Train Your Immune System" Against Salmonella

- Deliberately exposing yourself to salmonella to build immunity is **dangerous pseudoscience**
- Salmonella actively evades immune response, establishes persistent infection, can spread to blood/bones/CNS
- Universally opposed by CDC, FDA, EFSA, every food safety authority
- **Verdict: Could kill someone. Do not cite. Do not reference.**

How This Connects to Chapter 2

The gut-skin axis is the strongest new material. It connects the koala section to a reader's lived experience:

Koala: Bad browse → gut dysbiosis → dirty tail → chronic subclinical decline

Human: Bad food → gut dysbiosis → acne, eczema, inflammation → chronic subclinical decline

The parallel is exact. And the response is identical in its failure: the koala keeper sees dirty tail and reviews the browse. The human dermatologist sees acne and prescribes topical medication — treating the surface

symptom without assessing the nutritional input.

The capuchin comparison could work in "The Omnivore's Machinery" or "What the Animal Ate" — it gives a zoological answer to "what should this animal eat?" based on gut morphology, which is exactly how a zoo nutritionist would approach the question.

The Wai Diet Itself

Raw fruits, olive oil, raw fish, raw egg yolks, some nuts. No cooking, no dairy, no vegetables, no grains, no beans.

Assessment: Contains some reasonable elements (fruit, nuts, fish, olive oil) wrapped in ideology that cherry-picks science and makes dangerous claims about raw meat/egg safety. The fiber elimination directly contradicts the strongest evidence in nutritional science. The anti-vegetable stance has no basis. The raw meat advice is genuinely dangerous.

For the book: The Wai Diet is an example of what happens when someone correctly identifies a problem (modern food is bad for us) but proposes a solution based on selective science rather than the complete evidence. This is actually the pattern the book describes: a misguided attempt at something good. The impulse — to return to species-appropriate nutrition — is correct. The execution is ideological rather than scientific.

We don't need to cite the Wai Diet. We need to cite the real science it points at (gut-skin axis, HCAs, capuchin morphology) and let the zoological framework do the work.