

Source Critique Annex to the Working Paper ‘Animal, Human, Industry’ v0.1

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2026-06-01

Source Critique Annex

About this Annex

This document examines sources used or critically treated in the Main Paper. The examination follows five criteria:

1. **Study type and methodological quality** (RCT > prospective cohort > case-control > ecological > experiential report)
2. **Replication status** (multiply reproduced / single replication / not replicated / refuted)
3. **Funding and conflicts of interest** (industry-independent / industry-funded disclosed / undisclosed)
4. **Reach of conclusions** (do the conclusions fit the data base?)
5. **Status in the disciplinary community** (consensus / contested / marginal position / pseudoscientific)

A study is **not** automatically dismissed because it is industry-funded, and **not** automatically accepted because it is not. The argument itself is examined.

Annex A — Marginal and Contested Hypotheses

A.1 Stone Ape Theory (Terence McKenna 1992)

Origin: Terence McKenna, *Food of the Gods: The Search for the Original Tree of Knowledge*, 1992.

Core thesis: Psilocybin-containing mushrooms (especially *Psilocybe cubensis*), growing on the excrement of large ungulates, supposedly gave hominids in the African savanna evolutionary advantages in three dose-stages: improved visual acuity (low dose), elevated sexuality (medium dose), language and religious thought (high dose). The encephalization of humans is thus presented as psilocybin-driven.

Methodological status: Speculation. McKenna was an ethnobotanist and writer, not a paleoanthropologist. The book contains no empirical data, but a narrative argument based on ethnobotanical observations and personal psychedelic experiences.

Empirical support: No peer-reviewed study demonstrates a causal pathway from psilocybin consumption to encephalization. The most recent serious engagement (Rodríguez-Arce & Winkelman 2021, *Frontiers in Psychology*, doi:10.3389/fpsyg.2021.729425) examines the hypothesis with sympathy but concludes that the main theses are hard to test. The acoustic arguments (psychedelics may have been involved in the emergence of symbolic culture) are worth discussing; the specifically evolutionary derivation of hominization is not.

Disciplinary status: Marginal position. Treated as scientific theory in non-academic circles (Joe Rogan, psychonautics scene, parts of drug-policy debate); not in academic paleoanthropology.

Assessment: Used in the Main Paper to dismantle the popular notion that there is a scientifically serious “psychedelic hominization theory.” Stone Ape is inspiration and speculation, not science. Whoever presents it as science is misusing it.

A.2 Aquatic Ape Hypothesis (Hardy 1960, Morgan 1972)

Origin: Alister Hardy 1960 in *New Scientist*; elaborated by Elaine Morgan in *The Descent of Woman* 1972 and subsequent books.

Core thesis: A semi-aquatic phase in hominid evolution would explain features such as relative hairlessness, subcutaneous fat, descended larynx, infant swimming reflex, voluntary breath control.

Methodological status: Hypothesis without fossil support. There are no hominid fossils from aquatic habitats that would document a specifically aquatic phase. The cited features each have alternative explanations (thermoregulation, bipedalism, vocal-tract evolution).

Empirical support: Weak. Marc Verhaegen and some adherents continue to publish, mostly not in top-tier paleoanthropological journals. Standard rejection: Langdon 1997, *Journal of Human Evolution*, doi:10.1006/jhev.1997.0146.

What remains: The *Shore-based Diet Hypothesis* (Cunnane et al. 2007, *British Journal of Nutrition*, doi:10.1017/S0007114507795296) is the academically serious relative: coastal habitats provided DHA-rich food (shellfish, fish, algae), which is neurogenetically relevant. This is not “Aquatic Ape” but a corrective to the pure steppe-hunting narrative.

Disciplinary status: Marginal position; “Shore-based Diet,” by contrast, is taken seriously.

Assessment: Treated with distance in the Main Paper. Important because it shows there are alternative DHA-source stories — thereby removing another supporting pillar from the “meat-made-the-brain” narrative.

A.3 Carnivore Diet (Shawn Baker, Jordan Peterson, Liver King)

Origin: Vivian Goldschmidt 19th c., V. Stefansson 1928 *Adventures in Diet*; modern: Shawn Baker *The Carnivore Diet* 2019, Mikhaila Peterson 2018, Brian Johnson alias “Liver King” from 2021.

Core thesis: An exclusively animal diet — meat, organs, eggs, sometimes dairy — is optimal for human health; plants are superfluous or harmful.

Study basis: A single peer-reviewed study systematically engages with carnivore-diet practitioners: Lennerz, Mey, Henn & Ludwig 2021, *Current Developments in Nutrition*, doi:10.1093/cdn/nzab133. Method: online survey of 2,029 self-identified carnivore-diet practitioners, recruited through social media channels of the diet community. Self-reported improvements in well-being and metabolic parameters.

Methodological weaknesses of the Lennerz study: - Self-selection bias: only satisfied practitioners fill out the questionnaire - No control group - No longitudinal mortality data - No validation of self-reported values - Funding: partly through carnivore-aware sponsors

Empirical counter-evidence: EPIC-Oxford, AHS-2, and Tong et al. 2019 (BMJ, doi:10.1136/bmj.l4897) show lower cardiovascular mortality with plant-based dietary patterns. Mechanistic burdens (TMAO, Neu5Gc, heme iron, IGF-1) operate maximally under a pure animal-product diet.

The Liver King case: Brian Johnson staged an “Ancestral Lifestyle” from 2021 with daily raw animal liver and exceptional muscle mass. In December 2022 emails leaked in which Johnson confirmed monthly purchases of anabolic steroids worth \$11,000 (trenbolone, HGH, testosterone, anavar, andarine). The initial investigation was published in December 2022 by Derek Beres (channel “More Plates More Dates”) on YouTube; Johnson publicly admitted the steroid use shortly thereafter. The claimed body composition was not a consequence of the diet but pharmaceutically produced. (Specific dates and mainstream-media-coverage references as of 2026-05 to be verified; the fact itself is multiply documented through Johnson’s own follow-up statements and lawsuits.)

The Mikhaila/Jordan Peterson case: Mikhaila Peterson reported around 2018 disease remission through a pure beef diet; Jordan Peterson took it up. No peer-reviewed documentation; several independent self-reports of subsequent health complications exist (public interviews and Mikhaila Peterson’s own statements 2019–2023).

Disciplinary status: Outside scientific consensus. No professional society recommends the carnivore diet. The American Heart Association, the World Health Organization, and the Academy of Nutrition and Dietetics recommend plant-emphasizing diets with moderate or lower animal-product portion.

Assessment: Critically dismantled in the Main Paper. The carnivore diet is a marketing and subculture phenomenon, not a scientifically grounded dietary pattern. The central public evidence figure (Liver King) destroyed the marketing claim himself.

A.4 Raw Primal Diet (Aajonus Vonderplanitz)

Origin: Aajonus Vonderplanitz, *We Want To Live* 1997, *The Recipe For Living Without Disease* 2002.

Core thesis: Raw animal and plant foods, including raw milk, raw eggs, “high meat” (controlled rotting meat), raw organs, and raw bone marrow, cure chronic diseases including AIDS and cancer.

Methodological status: Experiential reports and personal anecdotes. No peer-reviewed studies. No controlled clinical data.

Microbiological risks: The recommendations include several foods that any public-health textbook classifies as dangerous: - Raw milk: *Listeria monocytogenes*, *E. coli* O157:H7, *Brucella*, *Mycobacterium bovis*. CDC statistics 2007–2016: 96 outbreaks, 979 cases, 73 hospitalizations, 3 deaths in the U.S. from raw dairy products (Mungai, Behravesh & Gould 2015, doi:10.3201/eid2107.140447, with update). - “High meat” (rotted meat): *C. botulinum*, *S. aureus*, *Salmonella*, in extreme cases botulinum poisoning. - Raw eggs: *Salmonella enteritidis*. Raw bone marrow: *Brucella*, *Mycobacterium bovis*.

The death of Vonderplanitz: He died in 2013 after a fall; this is medically unspectacular and is not an argument against the diet. But his book contains recommendations that can be life-threatening for AIDS and cancer patients — particularly the recommendation to avoid antibiotics and antiretroviral therapy.

Disciplinary status: Pseudoscience. No professional society recommends the Raw Primal Diet. Cases of demonstrable harm to practitioners are documented (public-health reports on raw-milk outbreaks).

Assessment: Treated in the Main Paper as a negative example. Vonderplanitz stands as a warning of how nutritional-spiritual ideologies can displace medical recommendations and endanger vulnerable patients.

Methodological Note

These four hypotheses are treated here because they play a role in public discourses — social media, podcasts, self-help literature — that does not correspond to their scientific status. A serious engagement with the question “should humans eat meat?” must be able to know and contextualize these positions, or else it leaves the field to commercial or ideological actors.

In subsequent tranches will follow: - Annex B: Industry-funded nutritional studies (Sugar Research Foundation, IDF/PURE, Beef Checkoff, EAT-Lancet/Wellcome) - Annex C: Methodologically contested large studies (Campbell China Study, EAT-Lancet, MIND Diet) - Annex D: Pro-vegan sources with their own weaknesses (Ornish, Esselstyn, Greger)

Annex B — Industry-Funded Studies and Politics-Science Entanglements

B.1 Sugar Research Foundation and the Diet-Heart Shift

Case: In 1965 the Sugar Research Foundation (SRF, predecessor of today’s Sugar Association) commissioned three Harvard scientists — Mark Hegsted, Robert McGandy, Frederick Stare — to produce a review on cholesterol, sugar, and heart disease. Fee: \$6,500 (today approximately \$60,000).

Result: “Dietary Fats, Carbohydrates and Atherosclerotic Vascular Disease,” published in 1967 in two parts in the *New England Journal of Medicine* (doi:10.1056/NEJM196707132770204 and :10.1056/NEJM196707202770206). The review classified sugar as cardiovascularly harmless and concentrated blame on saturated fats and cholesterol.

Exposure: Kearns, Schmidt & Glantz 2016, *JAMA Internal Medicine* 176(11):1680–1685, doi:10.1001/jamainternmed.2016.5394, uncovered the explicit commission relationship through archival documents — including SRF-internal correspondence in which the desired conclusion was pre-negotiated. The authors of the 1967 review did not disclose the funding at the time.

Implication: The diet-heart hypothesis is not false — LDL is causally linked to cardiovascular risk (Mendelian randomization, Layer 5). But the specific emphasis “fat is the main enemy, sugar is neutral,” which shaped U.S. nutritional policy in the 1970s and 80s and led to the low-fat / high-carb wave, was partly industrially co-constructed. The subsequent decades of obesity development in the U.S. and globally are multicausal, but this emphasis shift is partly to blame.

Relevance for this paper: First, the case shows that the claim “animal fats are the main enemy” historically rested in part on an industrially distorted evidence base. Second, this must *not* be misused to dismiss the diet-heart hypothesis as a whole — in the carnivore-diet scene and among cholesterol skeptics like Malcolm Kendrick and Aseem Malhotra, the sugar-lobby scandal has taken on the function of a blanket exoneration for animal fats, which the data do not support.

B.2 PURE Study and International Dairy Federation

Case: The PURE study (Prospective Urban Rural Epidemiology), central publication Dehghan et al. 2017, *Lancet*, doi:10.1016/S0140-6736(17)32252-3, examined 135,335 participants from 18 countries and reported: high carbohydrate intake associated with elevated total mortality, high fat consumption (including saturated) associated with lower mortality.

Methodological problems: - *Population mix:* PURE includes very poor countries, where “high carb share” often means malnutrition with white rice, not abundance of whole grains and legumes. Cross-country confounding is substantial. - *24h-recall methodology:* known to be susceptible to recall bias, especially in low-income settings with irregular meals. - *Outcome-diagnosis heterogeneity:* cardiovascular diagnoses in low-income settings less robustly documented.

Funding: PURE is coordinated by the Population Health Research Institute, McMaster University. The official sources include several governmental and institutional funders; specifically for dairy products, the Dairy Farmers of Canada (DFC) funded research sub-projects; the advisory structure of the PURE consortium included partial industry relationships, which were explicitly disclosed in the subsequent PURE dairy follow-up publication (Dehghan et al. 2018, *Lancet* 392:2288–2297, doi:10.1016/S0140-6736(18)31812-9).

Critical disciplinary response: Sievenpiper et al. 2019 (*American Journal of Clinical Nutrition*, doi:10.1093/ajcn/nqy397), Stamler 2018 (*European Heart Journal*), and several nutritional science statements point to the danger that PURE conclusions are misread in media discourse as “fat is now good” — which the study itself does not support.

Assessment: PURE is a large, methodologically serious study whose findings must be interpreted with substantial caution. It is named in the Main Paper as legitimate counter-evidence, with explicit notation of the methodological and financial conflicts.

B.3 EAT-Lancet 2019 and Wellcome

Case: EAT-Lancet Commission Report, Willett et al. 2019, *Lancet*, doi:10.1016/S0140-6736(18)31788-4. 37 commission members; “Planetary Health Diet”: 14 g red meat/day, 250 g dairy, 28 g poultry, 28 g fish, plus abundant vegetables, legumes, whole grains.

Funding: EAT Foundation (Norwegian private-philanthropy background, founded by Gunhild Stordalen) and Wellcome Trust. Wellcome is financially strong but as a charitable trust not directly linked to industry. Stordalen’s family business Strawberry Group is primarily in hotels and real estate, not in the food industry.

Critique points: - *Global universalism:* The recommendation has been criticized as too restrictive for subsistence populations, especially in East Africa and South Asia, where animal products are not substitutable through plant alternatives (Adesogan et al. 2020, *Animal Frontiers*, doi:10.1093/af/vfaa011). - *Economic accessibility:* Hirvonen et al. 2020 (*Lancet Global Health*, doi:10.1016/S2214-109X(19)30447-4) showed that the Planetary Health Diet is financially out of reach for approximately 1.58 billion people. - *Scientific reach:* The specific quantities (14 g red meat) are in part more precise than the underlying evidence allows; they are a plausibility construction from several parallel optimization goals (climate, health, land).

Assessment: EAT-Lancet is the most ambitious synthesis of climate and health research in recent years. It is not industry-driven, but it has its own limits — particularly its universalization weakness when taking poverty and subsistence contexts into account. Used in the Main Paper as a directional indicator, not as a tablet of law. The class question (who can afford this diet?) is explicitly part of the marxist Layer 12.

B.4 Beef Checkoff and the U.S. Advertising System

Case: The Beef Checkoff Program was established in 1985 under the Beef Promotion and Research Act. Since then every U.S. cattle rancher pays \$1 per sold animal into a fund administered by the Cattlemen’s Beef Promotion and Research Board. Annual volume approximately \$80 million.

Use: Advertising (“Beef. It’s What’s For Dinner.”), research, market opening. The advertising language stylizes beef as American identity, masculinity, family.

Constitutional history: Several cattle ranchers sued against the compulsory levy; *Johanns v. Livestock Marketing Association* (US Supreme Court 2005, 544 U.S. 550) decided that beef-checkoff advertising is “government speech” and that farmers had no First Amendment claim

to withdraw from funding. In effect: an industry was compelled by state power to its own self-marketing.

Assessment: This is the structurally parallel U.S. variant to the German CMA compulsory levy (see Layer 6). Both cases show that today's consumption norm around meat and dairy is not "naturally grown" but was planted and maintained by state-industrial complexes.

Annex C — Methodologically Contested Large Studies (Pro-Vegan Side)

C.1 The China Study (T. Colin Campbell)

Background: The Cornell-Oxford-China Project Study (Chen et al. 1990, based on 1983–84 field data) recorded dietary patterns and disease rates in 65 Chinese counties. T. Colin Campbell published in 2005 with his son Thomas the popular-science book *The China Study*, which derived from it the thesis that "animal protein" — especially casein — is the main driver of chronic diseases.

Methodological problems of the book synthesis: - *Study type:* The original data are ecological-correlative (county level), not individual. Ecological correlations are susceptible to the ecological fallacy. - *Selective data evaluation:* Several re-analyses (Minger 2010, online re-analysis, not peer-reviewed; Masterjohn 2011, similar; some academics in nutritional review papers) showed that the original data also allow divergent correlations, depending on which counties and variables are included. - *The casein studies:* Campbell relies partly on his own animal models, in which high casein doses accelerated aflatoxin-induced tumor progression in rats. This is an interesting mechanism but not direct evidence for casein effects in humans under normal consumption conditions.

Disciplinary status: The book *The China Study* is not a standard reference point in academic nutritional science. The original data of the Cornell-Oxford study are usable, but Campbell's synthesis conclusions go beyond what the data allow.

Assessment: The Main Paper does not use Campbell but EPIC-Oxford, AHS-2, Tong 2019, and Mendelian randomization as a more robust evidence base. Whoever cites "the China Study" as the main proof for veganism is citing a popular-science synthesis whose methodological weaknesses must be acknowledged.

C.2 Esselstyn / Ornish — Very Small RCTs

Esselstyn 2014, *Journal of Family Practice*: 198 patients with cardiovascular disease on a strictly plant-based, low-fat (< 10% energy) diet; 99.4% of compliance-fulfilling participants were free of cardiac events over 4 years.

Ornish et al. 1998, *JAMA*, doi:10.1001/jama.280.23.2001: Small RCT with 48 patients; coronary-angiographically documented atherosclerosis regression under lifestyle intervention (vegan, low-fat, stress management, exercise).

Methodological weaknesses: - *Very small n* - *No blinding* - *Multiple simultaneous interventions:* Ornish combines diet, exercise, stress management; effects not separable. - *Self-selection and compliance bias:* Participants are highly motivated; effects not directly transferable to the general population.

What they accomplish: They show *mechanism plausibility* — that extreme lifestyle interventions can produce angiographically visible atherosclerosis regression. This is relevant. But they are not a sufficient basis for population recommendations.

Assessment: Mentioned in the Main Paper as supporting mechanism evidence, not as a primary proof.

Annex D — Evidence Hierarchy for this Paper

The paper treats sources according to this internal hierarchy:

1. **Mendelian randomization** (LDL → cardiovascular; red meat → diabetes): highest causal confidence
2. **Large, long prospective cohort studies with transparent methodology** (EPIC-Oxford, AHS-2, Nurses Health Study): high evidentiary weight
3. **RCTs** (DASH, PREDIMED, Ornish): high internal validity, limited external validity
4. **Mechanism research** (TMAO, Neu5Gc, IGF-1, AGE): biochemical plausibility
5. **Position papers of professional societies** (Academy of Nutrition and Dietetics, American Heart Association): consensus synthesis, but with potential institutional path-dependencies
6. **Industry-funded large studies** (PURE, Beef-Checkoff studies): used with explicit conflict disclosure
7. **Popular-science syntheses** (Campbell *China Study*, Esselstyn book, carnivore-diet books): only as discourse contribution, not as evidence base
8. **Marginal positions** (Stone Ape, Aquatic Ape, Raw Primal): labeled as speculation

This scheme is implicitly applied in Layer 5; here it is explicitly documented.

Footer

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forschung@tschueller.com License: Creative Commons CC BY 4.0 Version: v0.1-EN, 2026-06-01
FORSCH-ID: 0090-E-EN Bundle: FORSCH-0090 — Tier, Mensch, Industrie Track: RESEARCH
(independent, no institutional affiliation) Translation status: AI-assisted authorial mirror; awaits
native-speaker review before publication. Parallel German source: Quellenkritik_Annex_v0.1.md
(canonical version on substantive points)