

Burn out or fade away

*Wollen wir für sie ein Ende im Feuer und Licht oder im Sande?*¹

Professors Spears and Geruso warn that “Humanity is on a path to depopulation,”² i.e., birth rates have fallen and remain below replacement level. If the global birth rate does not stabilize to replacement level then the human population will wane to precarity: “we can project with certainty that *if birth rates remain low*, then humanity would become quite small—perhaps vulnerably small—on a timeline of centuries.”³ The phrase ‘stabilization begins tomorrow,’ they write, “represents an illustrative fiction in which low-fertility societies transition to replacement birth rates now (today, this very instant!), and above-replacement places follow UN projections as their fertility drops to replacement levels. Even if stabilization begins tomorrow, it takes more than a century for stable replacement-level birth rates to work out to a stable population size.”⁴

Why this unprecedented decline? “[T]here is no puzzle anymore, no surprise”⁵ about why birth rates have dropped—the why is opportunity cost. “An opportunity cost is whatever you give up in order to have something.”⁶ Bairns cost more now in real forgones than they used to. “Money,” the authors explain, “can be an opportunity cost but so can time, attention, joy, cleanliness, peace and quiet;” so can “educational goals, career plans, or other ambitions;” so can “vacations, restaurant meals, quality time with a partner, streaming any good song or movie ever made, and just hanging out while the dishwasher and laundry machines do their things.”⁷ “A better world, with better options,”—a “revolution of expectations”—“makes parenting worse *by comparison*. . . . Once we see that costs include opportunity costs, as life becomes richer and more rewarding, children cost more.”⁸ The phenomenon of deaths of despair has its complement in non-births from improved expectations.⁹

So progress undergoes *peripeteia*:—progress has so diminished infant mortality rates and so increased life expectancy as to bring about a huge population (8 billion, projected to reach 10 billion around the year 2100) but will in turn bring about depopulation by continuing to increase

¹ Nietzsche, *Morgenröthe* (1887) 429.

² Dean Spears and Michael Geruso, *After the Spike: Population, Progress, and the Case for People* (2025) 255.

³ *Id.* 156, their emphasis.

⁴ *Id.* 60.

⁵ *Id.* 230.

⁶ *Id.* 223.

⁷ *Id.* 223-224.

⁸ *Id.* 225, their emphasis.

⁹ Case and Deaton on deaths of despair: <https://pmc.ncbi.nlm.nih.gov/articles/PMC5640267/>.

the variety and size of the opportunity costs of child-bearing. This scenario in which we continue to enrich and reward our lives to the point of species-death would be, to vary Nietzsche's phrase, *ein Tragödien-Ausgang der progressus*.¹⁰ Yes indeed, Nietzsche says, *es könnte selbst zur Grundbeschaffenheit des Daseins gehören, dass man an seiner völligen Erkundung zu Grunde gieng*.¹¹ 'It could well be constitutive of human existence that one would perish from its complete exploration.' Nietzsche wrote '*völligen Erkenntniss*.' He thought **knowledge** might kill us.¹²

Well, progress **is** applied knowledge, knowledge put to work. And knowledge is got by exploration. (*Kundung* and *kennen* are cognate.) "To get to the present," as our authors put it, "someone needed to do the discoveries and make the inventions."

"Why do we have LED lights, but our ancestors lived in the dark? Because some people alive today know how to make them. The crucial ingredient is the knowledge. Advancement in science and technology is the basic force [*Woher diese Kraft?*] that economists have identified as the reason why lives today are so much better than lives with animal-fat candles, no pain relief, no antibiotics, and no land transport except by foot or hoof. Life has become much better."¹³

The crucial ingredient in the advancement of knowledge is people *qua* explorers. Spears and Geruso take pains to emphasize that material and cultural progress come from human beings' non-rival innovations. 'Rival' is jargon for something that "if or when one person uses it, another person cannot."¹⁴

The authors give many examples of non-rival innovations. "One of the most productive technologies ever conceived was invented in Bangladesh in the 1960s. There, in a hospital focused on cholera, doctors first mixed oral rehydration salts. This simple mix of salt and sugar, dissolved in water in the right proportions, transformed humanity's ability to prevent children from dying of diarrhea. . . . The formula exists because some *people* found it."¹⁵ Again,

¹⁰ Nietzsche wrote '*der Erkenntniss*': *Morgenröthe* ¶45: <http://www.nietzschesource.org/#eKGWB/M-45> .

¹¹ *Jenseits von Gut und Böse* (1886) ¶39: <http://www.nietzschesource.org/#eKGWB/JGB-39> .

¹² The prospect analyzed in Michael L. Wong and Stuart Bartlett, "Asymptotic burnout and homeostatic awakening: a possible solution to the Fermi paradox?", 19 *J. R. Soc. Interface* (2022): <https://royalsocietypublishing.org/doi/10.1098/rsif.2022.0029> .

¹³ *After the Spike* 136, 135.

¹⁴ *Id.* 121. "the first step toward understanding why we have better healthcare, hand tools, and desserts today than a few hundred years ago is recognizing that ideas and technologies are non-rival." *Id.* 122.

¹⁵ *Id.* 123, their emphasis. Cf. "Bromeliad crabs are arboreal, climbing high into the canopy in Caribbean forests, where they breed in the water held by bromeliad leaf axils. . . . axils deep enough that standing water is virtually guaranteed for at least the 2-month brooding period. Crab moms convert the axils to nurseries by selectively removing debris. Organic debris like leaves and sticks is removed, possibly because its decomposition consumes oxygen and elevates carbon dioxide levels in water, but they leave a stock of snail shells—**even collecting extras**

chocolate chip cookies “were invented by Ruth Wakefield in 1938. She was working on perfecting her butterscotch cookies and had a new idea for cookies with little bits of chocolate that would not melt.”¹⁶

(It’s just as Schumpeter said: “the ‘new thing’ need not be spectacular or of historic importance. It need not be Bessemer steel or the explosion motor. It can be the Deerfoot sausage. To see the phenomenon even in the humblest state of the business world is quite essential.”¹⁷)

Another one: Kangaroo Mother Care—prevention of hypothermia in underweight newborns by continuous contact with the mother’s skin—is a non-rival process-innovation that originated in Bogotá, Colombia, and “is an important way the world has improved,” one of many ways.

“Somehow, we’ve made everything more abundant [for us] as the population [of people] has soared.”¹⁸ The authors want us to understand **how** and **why** that happened “so we can see what we might lose as humanity’s numbers recede.”¹⁹ Their argument In brief:

“Massive advances in technological progress and living standards (life expectancy, health, nutrition, safety, shorter workdays, less precarious lives) happened within the last two hundred years. Massive growth in population happened within the last two hundred years. It is no mere coincidence . . . It is cause and effect. . . . It goes in both directions. Progress helps babies to survive the start of life, to grow up to be adults. Those grown-ups then contribute to progress. The relationship between people and prosperity is a virtuous cycle of acceleration. . . . In the past few hundred years progress accelerated. People are why.”²⁰

and dumping them in, apparently to increase the availability of the mineral calcium carbonate, critical for successful molting of their young.” James T. Costa, *The Other Insect Societies* (2006) 698-699, my emphasis.

¹⁶ They continue, “Wakefield owned the Toll House Inn, where her innovative cookies were first served. That’s why you still see a Toll House logo on bags of Nestlé chocolate chips.” *After the Spike* 127. *Widow Clicquot* (dir. Thomas Napper 2023) same story *mut. mut.*

¹⁷ “Comments on a Plan for the Study of Entrepreneurship” in Joseph A. Schumpeter, *The Economics and Sociology of Capitalism* (ed. Richard Swedberg 1991) 412.

¹⁸ For the rest of the metazoa, not so much. Wild mammals: <https://www.pnas.org/doi/10.1073/pnas.2204892120> . Terrestrial arthropods: <https://www.science.org/doi/10.1126/sciadv.abq4049> . Birds:

<https://www.stateofthebirds.org/2025/> . Amphibians: <https://www.nature.com/articles/s41586-023-06578-4> .

Freshwater fishes:

https://worldfishmigrationfoundation.com/wp-content/uploads/2024/05/LPI_migratory-freshwater-fishes-2024_Technical-report.pdf . And so on. Human being crowds out others. Where I live was still juniper-covered hill country as recently as 1970. Nowadays the neighborhood newsletter publishes advice on controlling invasive species. I.e.,

the pre-eminent invader now has dominion.

¹⁹ *After the Spike* 120.

²⁰ *Id.* 128, 129. *Accord* Wong and Bartlett: “Advances in information processing and energy transduction reinforce one another autocatalytically: a greater ability to learn engenders exploration and innovation that opens new free energy resources; greater free resources allow for the transition to new information-processing paradigms. . . . When optimization processes form tight positive feedback loops, the rate of innovation and discovery (and the

People are the **why** of progress, and that's the key point Geruso and Spears want to establish: more people is better (for people). The **how** of economic progress was Schumpeter's special interest. Schumpeter's *Grundfrage* was 'how come novel economic phenomena?' Heidegger's was 'how come phenomena at all?'²¹ (As far as I can find out, Heidegger and Schumpeter never read a page of the other's work.)

Schumpeter's answer, *Durchsetzung neuer Kombinationen*, occurs 27 times in the 1926 (second) edition of *Theorie der wirtschaftlichen Entwicklung*. That answer is all he needed for his purpose of showing that economic development (*Entwicklung*) is distinct from economic growth (*Wachstum*).²² Mere growth (*bloße Wachstum*), he writes, "calls forth no new phenomena [*ruft keine qualitativ neuen Erscheinungen hervor*], but only processes of adaptation [*Anpassungsvorgänge*]" to conditions as they change. Development, by contrast, "consists primarily in employing existing resources in a different way [*der Andersverwendung der jeweils vorhandenen*], in doing new things with them."²³ That is,

"To produce [*produzieren*] means to combine materials and forces within our reach [*vorhandenen*]. To produce other things, or the same things by a different method, means to combine these materials and forces differently. In so far as the 'new combination' [*die neue Kombination*] may in time grow out of the old by continuous adjustment [*kontinuierlich anpassend*] in small steps, there is certainly change [*Veränderung*], possibly growth [*Wachstum*], but neither a new phenomenon nor development in our sense. In so far as this is not the case, and the new combinations appear discontinuously [*diskontinuierlich auftreten*], then the phenomenon

concomitant demand on energy resources) can quicken dramatically. We see this in the trajectory of human society since the emergence of the 'dataome.'" "Asymptotic burnout" 2.

²¹ Not 'how did the radiant 5% of the universe come into being?' but 'how come everything shows up to us as meaningful presence?' Not 'how is there matter?' but 'how is there mattering?'

²² *Entwicklung* and *Wachstum* are Schumpeter's thema-antithema pair, and in his theorizing this pair is yet another avatar of the fundamental opposition discrete-continuous. See Gerald Holton, "On the Role of Themata in Scientific Thought," 188 *Science* 328 (1975). Schumpeter's unpublished article '*Entwicklung*' (1932) focuses on the pure-and-simple occurrence of the new – *das Auftreten des neuen schlechtweg* – on the new construct as such – *der Neugestaltung als solche* – no matter what *Gestalt* the new might take, whether new interpretation (*neuen Auffassungsweise*) or new technique (*neuen Technik*). There Schumpeter emphasizes "the fundamental importance of novel phenomena" and claims that "such phenomena are essentially similar in all of the social sciences;" that "there is no difference between novelty in the economy and elsewhere." True novelty, Schumpeter claims, is always a discontinuity, a break: "The change transmuting one imprinted form [*eine geprägte Form*] into another one must represent a crack [*Riß*], a jerk [*Ruck*], or a leap [*Sprung*]." "Development," 43 *Journal of Economic Literature* 108; 114, 113 (2005); <https://www.schumpeter.info/schriften/Entwicklung.pdf>. Too bad he did not live to see René Thom's topological derivation of the discontinuous, 'the leap,' from the continuous. See: https://www.gresham.ac.uk/sites/default/files/1977christopherzeeman_catastrophethoery_0.pdf.

²³ *The Theory of Economic Development* 63, 68; <https://www.schumpeter.info/quellen/Theorie%201926.pdf#page=2> 96, 103.

characterising development emerges. . . . Development in our sense is then determined by the carrying out of new combinations [*Durchsetzung neuer Kombinationen*].”²⁴

Let us note that Schumpeter’s formula for *Entwicklung* repeats Nietzsche’s ἀρχή-Satz of history:

“there is no more important proposition,” says Nietzsche, “for all kinds of historical research than that which we arrive at only with great effort but which we really *should* reach . . . that anything in existence [*etwas Vorhandenes*], having somehow come about [*irgendwie Zu-Stande-Gekommenes*], is continually interpreted anew [*auf neue Ansichten ausgelegt*], requisitioned anew [*neu in Beschlag genommen*], transformed and redirected to a new purpose [*zu einem neuen Nutzen umgebildet und umgerichtet*] by a power superior to it; that everything that occurs in the organic world consists of *overpowering, dominating* [**Überwältigen, Herrwerden**], and in their turn, overpowering and dominating consist of re-interpretation [*Neu-Interpretieren*], adjustment [*Zurechtmachen*], and in the process of which their former ‘meaning’ [*Sinn*] and ‘purpose’ [*Zweck*] must necessarily be obscured or completely obliterated [*verdunkelt oder ganz ausgelöscht werden muss*].”²⁵

Contemplating these passages from Schumpeter and Nietzsche, Heidegger might well have invoked Wittgenstein’s remark that “The decisive movement in the conjuring trick has been made, and it was the one that seemed to us quite innocent.”²⁶ The decisive move is concealed in the everyday, innocuous word *vorhanden*. How, Heidegger would have us ask, do all these *Dinge und Kräfte* show up as *vorhandenen* for us in the first place—‘within reach’ and only then and thereby as feedstock for *das Neue*?

Wong and Bartlett observe that “As life on Earth has increased in scale and complexity, its ‘cognitive horizon’—defined as the spatial and temporal extent of its predictive abilities and goal-driven behaviour—has increased as well. The cognitive horizon of human civilization is unprecedentedly vast.”²⁷ Heidegger called the mattering-horizon of non-human animals their ‘encircling ring.’ THEN, in Heidegger’s tale of fundamental ontology, A MIRACLE OCCURS.²⁸ I.e., “With the existence of human beings there occurs an irruption [*Einbruch*] into the totality of beings [*in das Ganze des Seienden*], so that now the being in itself first becomes manifest, i.e.,

²⁴ *Id.* 65-66; *TwE* 100.

²⁵ *On the Genealogy of Morality* ([1887] tr. Carol Diethe 1994) 55; <http://www.nietzschesource.org/#eKGWB/GM-II-12>.

²⁶ Ludwig Wittgenstein, *Philosophical Investigations* ([1953] 4th rev. ed. tr. G. E. M. Anscombe, P. M. S. Hacker, and Joachim Schulte 2009) p. 109 ¶308. *Der entscheidende Schritt im Taschenspielerkunststück ist getan, und gerade er schien uns unschuldig.*

²⁷ “Asymptotic burnout” 5.

²⁸ See the Sidney Harris cartoon: “I think you should be more explicit here in Step Two.”

as being [*das Seiende an ihm selbst, d.h. als Seiendes offenbar wird*], in varying degrees, according to various levels of clarity, in various degrees of certainty.”²⁹

We want more explicitness here in Step Two, of course, and many people are hard at work on it.³⁰ But what Wong and Bartlett and Spears and Geruso all four of them want is THE MIRACLE OF FLAT TRAJECTORY. Stabilization, for Spears and Geruso, ‘on the way down;’ homeostasis, for Wong and Bartlett, ‘on the way up.’

The homeostatic awakening Wong and Bartlett call for is “a cognitive step beyond simply recognizing the problem of being on a trajectory of unbounded growth.” This step beyond is a “redirection,” “which would require a rewriting of the fabric of global civilization so that unbounded growth is no longer the priority—or at least no longer the outcome.” They call the result “maximizing a different metric.”³¹

The society of modern Bhutan exemplifies the sort of ‘awakened path’ which Wong and Bartlett would have the world emulate. “By placing preservation and conservation front and centre, Bhutan is pioneering a potential path in which material and economic metrics are not necessarily maximized, but other goals such as human and environmental health and the pursuit of knowledge are instead emphasized.”³² Okay. ‘Google, what’s the birth rate of Bhutan?’ The rate of live births per woman was 6.7 in 1960 and did not fall below 6 until 1988, then fell precipitously to 2 by 2013; and thereafter fell steadily to 1.46 by 2023. This is what Spears and Geruso are trying to tell us: “People have chosen to have fewer and fewer children as their societies have become richer and richer.”

Spears and Geruso’s exhortation to a stabilized world population makes clear that their desired result requires transformation of **everyone’s** *Sorgestruktur*. “Whether to parent,” they write,

“must be a free, personal choice. Yet whatever is chosen by each for themselves will have consequences for us all. We all matter to one another. We all have a stake in outcomes that affect society as a whole, including the size of the population. Resolving this tension requires seeing a different future—of work, of family, of the social infrastructure that supports parenting and caregiving. . . . we are all making a mistake, together, when we make it hard for people to choose larger families or to have children. If we want there to be a thriving future, then it’s time to start taking better care of one

²⁹ Martin Heidegger, *Kant and the Problem of Metaphysics* (tr. Richard Taft, 5th ed., enlarged 1997) 160. *Gesamtausgabe Band 3*: 228 : <https://www.beyng.com/pages/de/GA03/GA03.228.html> . Cf. LW’s sardonic take on this picture: “Though the ether is filled with vibrations, the world is dark. But one day, man opens his seeing eye, and there is light [*und es wird hell*].” *PI* (II) vii ¶155.

³⁰ E.g, at human-accelerated regions in the genome: <https://www.science.org/doi/10.1126/sciadv.adt0534> .

³¹ “Asymptotic burnout” 5.

³² *Id.* 5-6.

another and of our caretakers. . . . A stabilized population would mean more children—more childbirth and more child-rearing. . . . Whose job is it to do the work of changing parenting, changing our economies, and changing our priorities (in culture, in science, and everywhere else) so that women and men who want can choose to parent an average of two children in a good, free, stabilized future? . . . We say it's everyone's job."³³

Change, change, change everywhere (a 'rewriting of the fabric of global civilization') then settles to a stabilized population "generation after generation," "in perpetuity."³⁴ Really?

Any stabilized, homeostatic future appears to me implausible because of the very thing which all four authors take as **the** vehicle that got us to the instable present:—innovation. Innovation is a behavioral variety of phenotypic variation.³⁵ The deepest meaning of the Darwinian revolution, Gould once wrote, is "to view natural reality as composed of varying individuals in populations—that is, to understand variation itself as irreducible, as 'real' in the sense of 'what the world is made of.'"³⁶ *Die Welt, so to speak, als Veränderung des Vorstellungs.* "Variation," said Bateson, "*is* Evolution."³⁷ Gerhart and Kirschner theorize that descent with modification is the history of the deconstraint and facilitation of variability.³⁸ And the most deconstrained, variant-mongering organism hitherto evolved is human being. *Existenz* is the dreamwork of nature. In Heidegger's idiom, *Nicht wir haben das Neue, sondern das Neue hat uns.*

Indeed it could be that 'stability' ('constancy') is itself a fiction, an ancient conceptual innovation, *unsre längste Lüge*; a notional variant of the universal experience of everything as growth and decay, as wandering flux. The myth of deliverance, again.

DCW 08/26/2025

³³ *After the Spike* 8, 73, 89.

³⁴ *Id.* 20, 253.

³⁵ Innovation is hardly confined to human being. E.g., on an island off Panama a fad has developed among young male capuchin monkeys of abducting howler monkey infants. Developed not as some sort of adaptation—they don't eat the infants or put them to any material use—but out of boredom. As the reporting ethologists write, "Innovations are common on islands due to both ecological need and behavioral opportunity. Additionally, reduced predation risk coupled with 'under-stimulation' resulting from low species richness and reduced social cohesion might yield free time and potentially 'boredom', which are linked to innovation in both humans and animals."

<https://www.sciencedirect.com/science/article/pii/S0960982225003720?via%3Dihub> . See it here:

<https://www.youtube.com/watch?v=mooONOPM3RE> .

³⁶ Stephen Jay Gould, *Full House: The Spread of Excellence from Plato to Darwin* (1996) 3.

³⁷ William Bateson, *Materials for the Study of Variation* (1894) 6.

³⁸ <https://www.pnas.org/doi/10.1073/pnas.0701035104> .