

From lifespan to healthspan: On the “disease” of aging

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Abstract. The concept of *healthspan* dates back to the early 20th century and has received growing interest since 1987, when the notion of “successful aging” was used to understand the heterogeneity of aging and to identify the most effective strategies used by individuals with an expanded healthspan. Recent debates around the appropriate label for age-related diseases in the 11th edition of the World Health Organization’s database of disease classification codes saw opponents of the proposal to include “old age” argue that it was ageist, while supporters campaigned to promote the idea of labeling aging as a treatable disease in its own right. Meanwhile, within geroscience there has been a renewed focus on extending healthspan and on treatments that manipulate the hallmarks of aging (i. e., treating aging as a disease), with less attention given to aging individuals. We demonstrate how collocations and neologisms (mostly word formations with *gero-*) frame this medically and socially interesting issue. With regard to language and aging research, we argue that the linguistic and social impact of the recent debate and its outcome should be considered, as it explicitly or implicitly affects the position of researchers, and the language and communication of the aging individuals.

Keywords. lifespan, healthspan, geroscience, framing, aging, discourse

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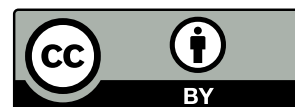
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1 *Healthspan*: A slow career

The concept of *healthspan*² originally involved a focus on aging individuals themselves. In order to explain the heterogeneity of older people, and to identify factors result-

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2. The term *healthspan* is first documented in 1919: “While hammering the death rate and the mortality rate let us not forget the health span. It should at least be doubled” (E. L. Fisk in *Health News*, Monthly Bulletin, New York State Department of Health, July, p. 171; see OED 2026, s. v. *healthspan*).

ing in health promotion and disease prevention in older people, researchers proposed a distinction of *usual* vs. *successful* aging. From this perspective, transitions have a functional significance, as they accelerate or slow development from successful to usual, usual to diseased, diseased to impaired. As an example of this, in their review, Rowe and Kahn (1987, 148) discuss the different functions and the positive-function impact of activities such as exercise, and improving cognitive training. However, the idea of *healthspan* spread only slowly (Kaeberlein 2018, 361). It has also been also criticized for lacking a clear definition, and for suggesting that health is a binary trait, *good* or *bad*; consequently, Kaeberlein (2018, 362, 363) recommends limiting its use to “popularizing geroscience among the broader scientific and lay communities.”

2 The WHO debate

Recent developments in geroscience have offered a new approach to the human health-span. To understand this, we must first consider the classification of age-related codes in the official nomenclature.

In ICD-11 (2026), the 11th edition of the World Health Organization’s database of disease classification codes, the code *MG2A* refers to “Ageing associated decline in intrinsic capacity,” along with the code *XT9T* for “Ageing-related,” a subsection in *Aetiology, Causality*.

This label is the result of a longer debate: The more general code *MG2A: Old age* was originally proposed to replace the code *R54: Senility* that was in ICD-10 (Rabheru, Byles, and Kalache 2022). The ironic remark the Roman comedy writer Terentius had his character utter more than 2,000 years ago—“old age is in itself a disease”³—had evolved into a diagnostic tool.

But it didn’t take long for a counter-slogan to emerge: “Old age is not a disease, but ageism is” (Rabheru, Byles, and Kalache 2022, e457; see also Wohns 2025). An international protest was organized. It was argued that the negative prominence of chronological age could strengthen societal ageism.

The risk of the current stance on aging in the ICD-11 is the reinforcement of the widely prevalent ageistic beliefs in society as well as the mental health and medical professionals. As it stands, older adults are often at a socioenvironmental disadvantage in terms of equality in health-care provision, and considering age as a disease will potentially magnify this. (Banerjee, Mukhopadhyay, Rabheru, Ivbijaro, and de Mendonca Lima 2021, e610)

A concession was made, and the more general label was replaced by the current code—but for how long?

3 Targeting the “hallmarks of aging”: Recent approaches in geroscience

As Kroemer, Maier, Cuervo, Gladyshev, Ferrucci, Gorbunova, Kennedy, Rando, Seluanov, Sierra, Verdin, and López-Otín (2025, 2044) (henceforth: Cell 188) recently put

3. *SENÉCTUS IPSAST MORBUS*, *Phormio* Act IV 575, Terentius Afer (1930, 33); this phrase inspired the Italian Project *Senectus Ipsa Morbus* (SIM: Spontaneous Speech in Healthy Aging, PRIN 2022), which served as the basis for the FRA Corpus (Dovetto and Marra 2024).

it, “aging is not (yet) considered a disease.” Their paper continues a series published in the journal *Cell*, begun with López-Otín, Blasco, Partridge, Serrano, and Kroemer (2013) (henceforth: Cell 153) and continued by López-Otín, Blasco, Partridge, Serrano, and Kroemer (2023) (henceforth: Cell 186).⁴

With a focus on the “hallmarks of aging,” these papers aim at “transforming the way we approach age-related diseases, shifting the focus from treating manifest conditions to targeting aging itself as a root cause” (Cell 188, 2044). The relevant number of the “hallmarks of aging” described in these papers began with 9 (Cell 153), and then increased to 12 (Cell 186), and later was extended to 14 (Cell 188).

The discussion in *Cell* was couched in the language of better understanding aging, and by doing so in terms of the healthspan.⁵ In Cell 186, the use of *healthspan* increased in use as compared to Cell 153 (see Table 1). In addition, the *healthspan* collocates are action verbs expressing the power of modification. The negative idea of reducing the lifespan is rarely mentioned, and when this negative possibility is mentioned it is done so with less dynamic forms, e. g., a noun rather than a verb, as in “reduction of healthspan and lifespan” (Cell 186, 254).

Table 1: Verb + *longevity* / *healthspan* constructions and *aging and X* collocations in López-Otín, Blasco, Partridge, Serrano, and Kroemer (2013, 1194–1208, 15 pp.) (Cell 153), López-Otín, Blasco, Partridge, Serrano, and Kroemer (2023, 243–267, 25 pp.) (Cell 186), and Kroemer, Maier, Cuervo, Gladyshev, Ferrucci, Gorbunova, Kennedy, Rando, Seluanov, Sierra, Verdin, and López-Otín (2025, 2043–2057, 15 pp.) (Cell 188). Occurrences in tables, captions and references are excluded.

	Cell 153	Cell 186	Cell 188
<i>verb + healthspan</i>			
<i>extend</i> (all forms)	1	7	3
<i>increase</i> (all forms)	2	5	0
<i>improve</i>	3	3	0
<i>expand</i>	0	2	0
<i>enhance / modulate / maintain</i>	0	5	1
Total	6	23	4
per page	0.40	0.92	0.27
<i>binomial healthspan and/or lifespan</i>			
<i>healthspan and/or lifespan</i>	1	16	1
per page	0.07	0.64	0.07
<i>aging and X</i>			
<i>diseases / pathologies / morbidities</i>	4	11	1
<i>damage</i>	0	1	0
<i>longevity</i>	0	1	0
Total	4	13	1
per page	0.27	0.52	0.07

Following Firth (1962 [1957], 12), we note that the frequent use of collocates reinforces their “mutual expectancy.” The collocates of *healthspan*, then, such as *extend*, suggest

4. Consider the statement “Aging is *not yet* a recognized target for drug development or for treatment,” Cell 186, 268, emphasis added.

5. “Hopefully, these combined approaches will allow a detailed understanding of the mechanisms underlying the hallmarks of aging and will facilitate future interventions for improving human healthspan and longevity,” Cell 153, 1209.

that actions such as *extending healthspan* are not only the aim, but also can be managed. Cell 186 also makes frequent use of the binomial *healthspan and lifespan*, which points to a conceptual alignment of the two notions. In the same paper, we observe an increasing use of *aging* in a binomial construction with negatively connoted nouns such as *disease*.

Cell 188 goes a step further, and it does so with explicit reference to Cell 153 and Cell 186. The programmatic review of Cell 188 has the title “From geroscience to precision geromedicine: Understanding and managing aging.” While *geroscience* and other wordforms prefixed with *gero-* are not used in Cell 153, and they occur only twice in Cell 186, Cell 188 makes massive use of *gero-* wordforms and neologisms (see Table 2).

Table 2: *gero-* word formations in Kroemer, Maier, Cuervo, Gladyshev, Ferrucci, Gorbunova, Kennedy, Rando, Seluanov, Sierra, Verdin, and López-Otín (2025, 2043–2057, 15 pp.) (Cell 188). Body text only; occurrences in tables, captions and references excluded.

type	Cell 188
<i>geromedicine</i>	26
<i>gerosuppressor(s)</i>	12
<i>gerogene(s)</i>	12
<i>geroscience</i>	7
<i>gerotherapeutics</i>	6
<i>geroscientific</i>	5
<i>gerosuppressive</i>	5
<i>gerogenic</i>	4
<i>geroscientist(s)</i>	2
<i>gerogen-encoded</i>	1
<i>gerodiagnostics</i>	1
Total	81
per page	5.4

This broad range of *gero-* lexical items seems to construct the idea of a *gero-machinery*, where *age* is the subject to be treated.

With the support of large international consortia and adequate governmental, philanthropic, and private funding, along with a careful blend of ambition and realism, this endeavor should lead to the successful clinical implementation of precision geromedicine with the supreme goal of optimizing health and maximizing healthspan (Cell 188, 2056).

This view of aging as a treatable condition, of course, promotes the industry of medical interventions. The “declaration of interests” section at the end of Cell 186, in which we learn the direct and indirect funding streams and commercial interests of the authors, underscores the economic interests accompanying this approach.

4 Does all this matter for the field of Language and Aging Research?

The human subjects experiencing aging do, however, disappear somewhat behind the abstract idea of “healthy longevity” (e. g., Cell 186, 268), and a geroscience dealing with “hallmarks of aging” rather than with individuals.

The use of these sorts of linguistic tools to understand the way aging is framed in research is long established (including in this journal: consider Jamet and Coupé 2024; Putland and Brookes 2024). As our very brief sketch may have shown, the ways language is used to frame the sciences of gerontology and geroscience themselves is also an interesting object to help us understand how aging is framed and what the role of aging individuals is (or, perhaps better: is seen to be by researchers in those fields).

In *Illness as Metaphor*, Sontag (1978) pointed to the linguistic features activated in the discourse about diseases (including, in the case of aging, the simple labeling of something as a disease), and how they potentially affect the people who experience those conditions. In an indirect or direct way, the expectations of what constitutes successful aging, or presence of an ongoing disease called “aging,” may well have an impact on the expectations and assumptions of researchers (Bowie and Gerstenberg 2025), and may be reflected in language and communication of aging individuals in later life.

So: Does all this matter for Language and Aging Research (LAR)? We would argue that it does. One of the central tensions that must be acknowledged is that while aging can be described in very generalized ways (e. g., aging voices exhibit increased creak), individuals who are aging do not all experience the same effects or exhibit the same behaviors as they age, to the point that age cohorts become more disparate as they age. This recognition, then, that aging individuals are aging *individuals* allows LAR to be grounded in the human side of the experiences and process associated with aging.

In that way LAR can serve as a counterbalance to the view that aging is at core simply a condition to be treated. Rather, what the observation of language use by aging individuals can do is shift attention to the choices and strategies used—and, we would suggest, the autonomy and agency exhibited—by the people who experience aging (which, after all, is all of us).

Use of AI tools

Anthropic Claude Opus 4.8 was used to assist with a bibliographic search and the presentation of tabular data. No AI/LLM tools were used for analysis or writing the text of the article.

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