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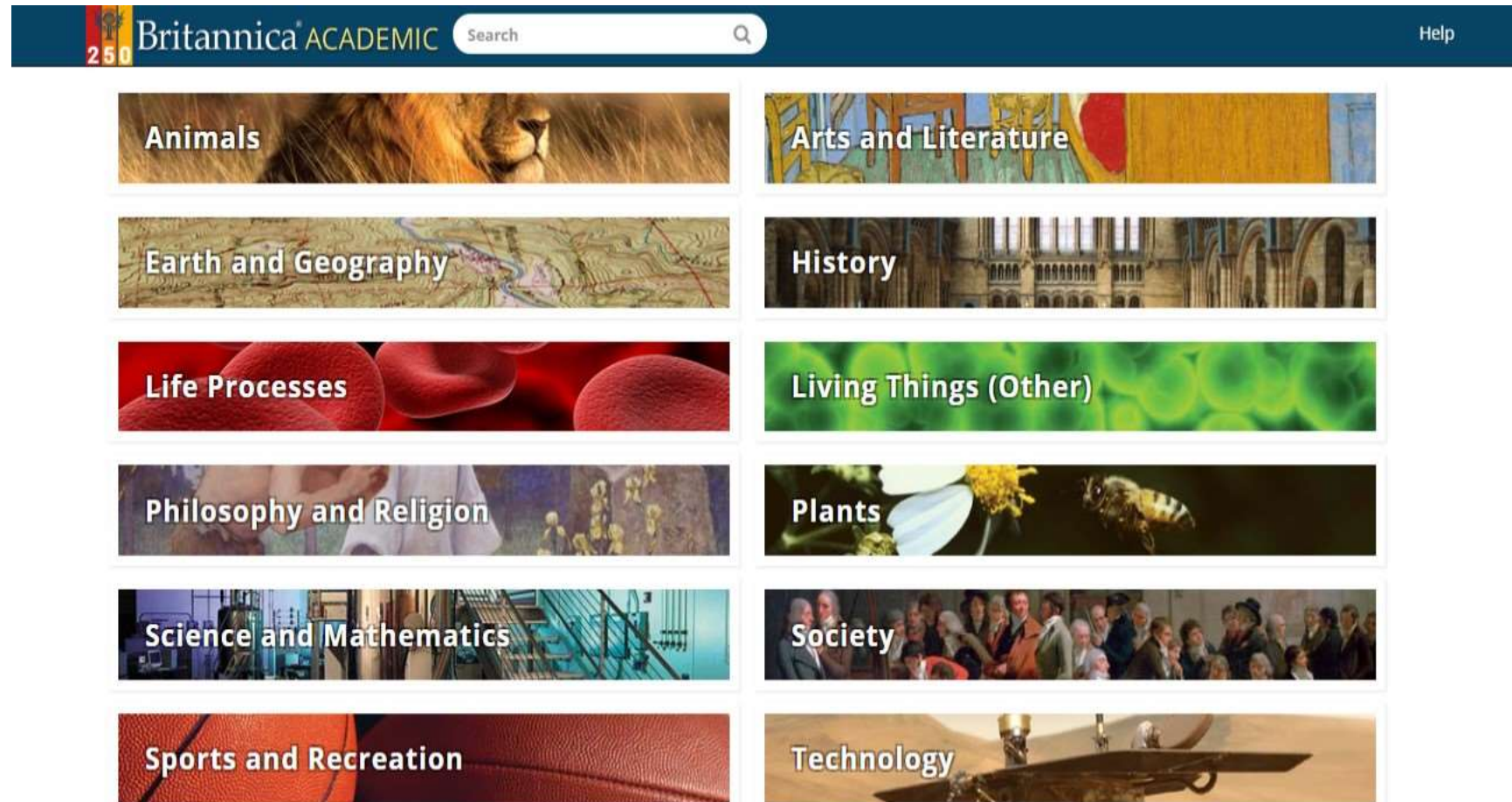
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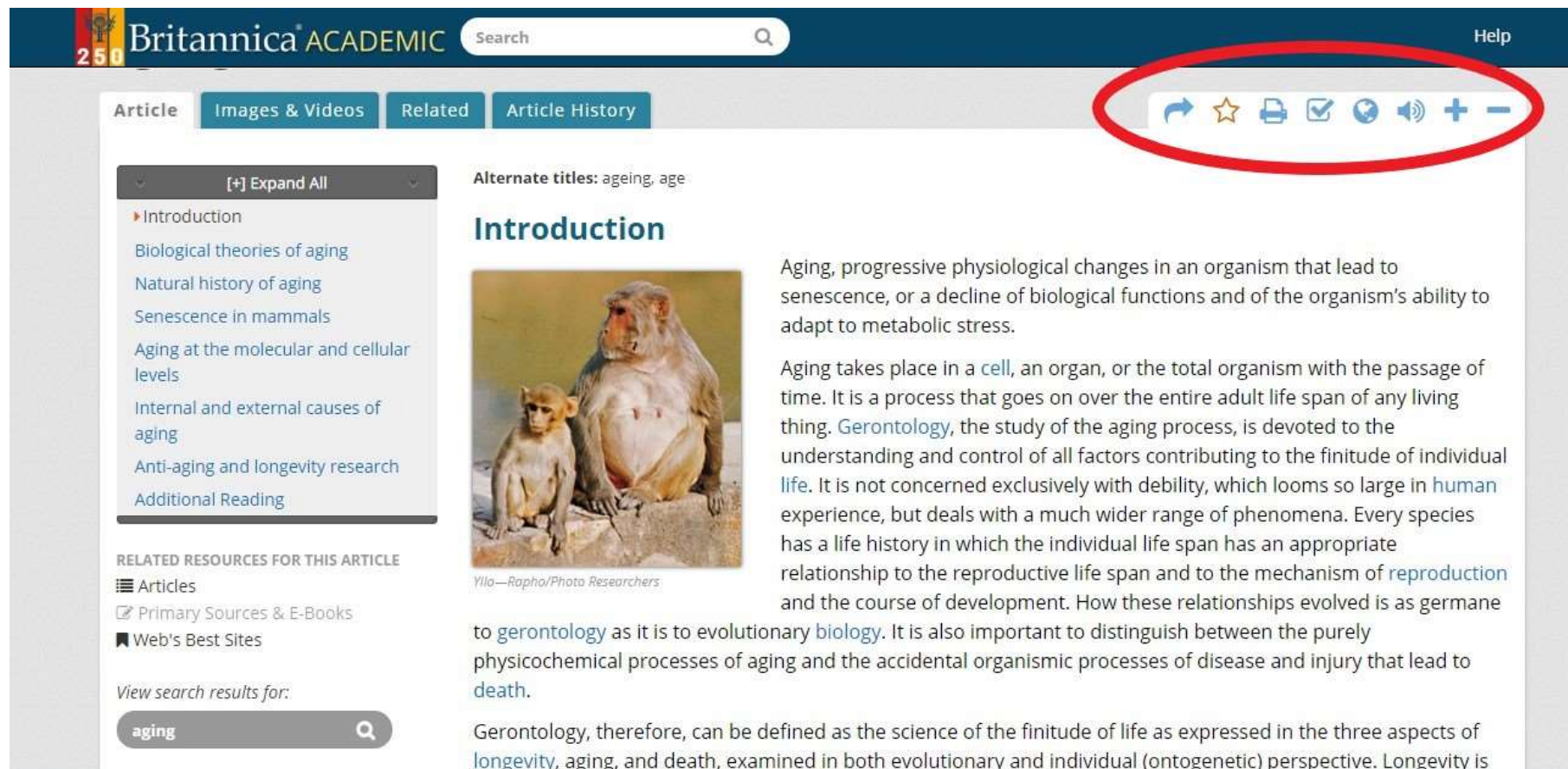
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Introduction



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Aging, progressive physiological changes in an organism that lead to senescence, or a decline of biological functions and of the organism's ability to adapt to metabolic stress.

Aging takes place in a [cell](#), an organ, or the total organism with the passage of time. It is a process that goes on over the entire adult life span of any living thing. [Gerontology](#), the study of the aging process, is devoted to the understanding and control of all factors contributing to the finitude of individual [life](#). It is not concerned exclusively with debility, which looms so large in [human](#) experience, but deals with a much wider range of phenomena. Every species has a life history in which the individual life span has an appropriate relationship to the reproductive life span and to the mechanism of [reproduction](#) and the course of development. How these relationships evolved is as germane to [gerontology](#) as it is to evolutionary [biology](#). It is also important to distinguish between the purely physicochemical processes of aging and the accidental organismic processes of disease and injury that lead to [death](#).


Gerontology, therefore, can be defined as the science of the finitude of life as expressed in the three aspects of [longevity](#), aging, and death, examined in both evolutionary and individual (ontogenetic) perspective. Longevity is


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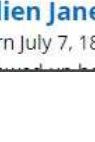
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(born December 16, 1928, New York City, New York, U.S.), American biochemist and geneticist who developed the Ames test for chemical mutagens. The test, introduced in the...


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	Deleted video.	Adam Augustyn	Nov 18, 2019
T	Added information on plant-based diets and increased longevity in humans.	Kara Rogers	Aug 9, 2019
T	Added mention that aging can be slowed naturally through a lifetime of regular exercise.	Kara Rogers	Mar 7, 2019
	Media added.	Robert Lewis	May 12, 2016
	Media added.	Michele Metych	Apr 7, 2016
	Added video that examines differences in the aging process between human beings <i>Homo sapiens sapiens</i> , naked mole rats, and the jellyfish <i>Turritopsis dohrnii</i> .	John P. Rafferty	Nov 20, 2015
	Added video.	Amy Tikkanen	May 15, 2015
	Media added.	The Editors of Encyclopaedia Britannica	Mar 5, 2014
	Replaced photograph of arthritic hands.	Amy Tikkanen	Jan 28, 2013
T	Text on longevity-associated genetic signatures thought to predict exceptional longevity in humans removed due to retraction of the scientific paper describing the findings.	Kara Rogers	Apr 19, 2012
T	Article revised jointly with Petra Simic.	Kara Rogers Leonard P. Guarente	Feb 14, 2011