and wrinkling of skin). In medicine, a conceptual division is made between the former, as diseases for which aging is a risk factor, and the latter, which are not pathological but rather manifestations of *normal* aging.[14–16] Here, aging itself is viewed as a natural and non-pathological process. However, this division and the notion of normal aging is problematic in a number of respects. For example, the designation of particular senescent changes as normal or pathological has been controversial, as illustrated by the transfer of late-onset Alzheimer's disease and osteoporosis from the former to the latter category.[5] Moreover, from a biological perspective, senescence, a biological process whose defining characteristic is deterioration, is a fundamentally pathological process, identifiable as damage accumulation, degeneration, loss of function, and emergence of numerous disease states that can cause suffering and death. At present there exists some division between perspectives on aging in the medical and scientific domain. In the former the concept of normal aging is more prevalent, whereas in the latter there are more doubts about the existence (or meaning) of "non-pathological senescence".

As a contribution to this debate, we present here an attempt at a disease definition of aging. Ideally, a disease definition will include a full description of the disease etiology. In the case of aging this is not possible since the biological mechanisms that cause senescence are only partly understood. This definition does not pretend to encompass the views of all biogerontologists, and it surely will not do so. We hope that its faults will incite others to develop better definitions.

2.1.2.1 An Attempt at a Broad Account of the Etiology of Senescence

Organismal senescence manifests as diverse pathologies, including neurodegenerative diseases, cardiovascular disease and cancer, as well as minor pathologies such as skin wrinkling, and encompasses the etiologies of these conditions. There is no single etiology of organismal senescence, but rather multiple causes that generate a number of syndromes and unitary diseases. Thus, aging is a disease super-syndrome. These etiologies are predominantly the result of inherited predisposition, but environmental factors that promote damage and injury also play an important role, often through effects on the expression of predispositions (*e.g.* mechanical injury to joints can contribute to osteoarthritis).

Insofar as it is genetically determined, organismal senescence is a form of genetic disease, but of a special kind, as follows. According to contemporary medical understanding, a genetic disease is the result of a mutation in a gene that disrupts its evolved function, changing the gene from wild type to mutant, thereby disrupting biological function and causing pathology. By contrast, the inherited predisposition to organismal senescence is largely specified by wild-type genes. This seemingly paradoxical claim makes sense in the light of the evolution of aging.

Until the middle of the last century, aging was viewed as an adaptation that benefited the species by removing worn out, old individuals. This view is still