those in cells of aging multicellular organisms (and geroprotectors should postpone/retard the accumulation), with the kinetics of cell death in this model system remaining behind the scene. Our subsequent studies have shown that cells in this model die out in accordance with the Gompertz law; *i.e.*, they age in the true sense.[6,84] In other words, the probability of their death increases exponentially with age, as in aging animals and humans. Incidentally, similar results were obtained with the suspension cultures of *Acholeplasma laidlawii*,[77] and our previous experiments with this mycoplasma showed that its "stationary phase aging" could be successfully delayed by treatment with a geroprotective antioxidant 2-ethyl-6-methyl-3-hydroxypyridine chlorohydrate.[76]

It should be noted that most of the cell survival curves in our studies were obtained with transformed animal and human cells. Under appropriate conditions, most cancer cells are capable of proliferating indefinitely, with a given cell line (but not individual cells!) being "immortal." For example, the well-known HeLa cell line has been maintained in hundreds of laboratories over more than 60 years. However, when the growth of such a culture is restricted by certain physiological means (not causing cell death), various defects at different structural and functional levels begin to accumulate in the cells, and the probability of their death increases; *i.e.*, the cells, as already mentioned, age in the true sense.[83] At the same time, with regard to the reliability theory, it should be taken into account that an aging multicellular organism should not necessarily consist of senescing cells: the cells can simply die out "by exponent" (*i.e.*, without senescence), as in the case of radioactive decay.

Usually, no special methods of cell viability assessment were used by us in such experiments with human and animal cell cultures, and the proportion of cells survived by a given moment of time was determined visually, simply by counting the cells under a light microscope. Hence, the question has arisen as to how adequately the viability of an individual cell is evaluated using such an approach. This aspect is especially important for correctly constructing the survival curve's right tail, where the scattering of data points reaches a maximum because of significant reduction in the absolute number of the cell population.[62]

It should be noted that the correct assessment of cell viability is a problem for all specialists working with cell cultures, but it is especially acute in the case of cytogerontological experiments, where attention is focused on the temporal dynamics of the live/dead cell ratio in culture. It is such a parameter that should be determined in the first place in studies on cell aging both in the Hayflick model and in our model of stationary phase aging. However, this task is not as simple as it may seem at first glance. First, the cells may divide, thereby disrupting the integrity of the cell cohort; second, it is fairly difficult to correctly determine the time of death for a particular cell: the period of dying may be commensurate with cell life span, and it is tough to tell what stage in this long process is the point of no return,[85] after which the cell can be certainly considered dead.