

Life Eternal Research Literatures

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Abstract: Immortality is the ability to live forever or eternal life. Natural selection has developed potential biological immortality in at least one species, the jellyfish *Turritopsis dohrnii*. Certain scientists, futurists, and philosophers have theorized about the immortality of the human body, and advocate that human immortality is achievable in the first few decades of the 21st century, whereas other advocates believe that life extension is a more achievable goal in the short term, with immortality awaiting further research breakthroughs into an indefinite future. The absence of aging would provide humans with biological immortality, but not invulnerability to death by physical trauma; although, mind uploading could solve that issue. In religious contexts, immortality is often stated to be among the promises by God (or other deities) to human beings who show goodness or else follow divine law. What form an unending human life would take, or whether an immaterial soul exists and possesses immortality, has been a major point of focus of religion, as well as the subject of speculation, fantasy, and debate. This article introduces recent research reports as references in the related studies.

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Introduction

Recent developments in cosmology radically change the conception of the universe as well as the very notions of "probable" and "possible". Immortality is the ability to live forever or eternal life. Natural selection has developed potential biological immortality in at least one species, the jellyfish *Turritopsis dohrnii*. Certain scientists, futurists, and philosophers have theorized about the immortality of the human body, and advocate that human immortality is achievable in the first few decades of the 21st century, whereas other advocates believe that life extension is a more achievable goal in the short term, with immortality awaiting further research breakthroughs into an indefinite future. The absence of aging would provide humans with biological immortality, but not invulnerability to death by physical trauma; although, mind uploading could solve that issue. In religious contexts, immortality is often stated to be among the promises by God (or other deities) to human beings who show goodness or else follow divine law. What form an unending human life would take, or whether an immaterial soul exists and possesses immortality, has been a major point of focus of religion, as well as the subject of speculation, fantasy, and debate. Eternal inflation offers a viable alternative that is untenable in a finite universe. In an infinite universe (multiverse), emergence of highly complex systems by chance is inevitable. Therefore, under this cosmology, an entity as complex as a coupled translation-replication system should be considered a viable breakthrough stage for the onset of biological evolution.

The following introduces recent reports as references in the related studies.

Bruce, N., C. Price, et al. "A slow death or eternal life? Future directions for annual public health reports." *Public Health*. 1994 Nov;108(6):439-46.

Several years after their reintroduction, district public health reports continue to face questions about purpose, content and evaluation. As public health embraces the wider vision of the World Health Organisation's 'Health for All' strategy, and the consequent need for collaboration with other sectors and participation with communities, there is a need for the reports to respond accordingly. This theme is explored in relation to the needs of the report's diverse audience, the type of local research required to make the report relevant and effective, and approaches to evaluation. A growing local research function has resource and training implications for Departments of Public Health. The demands of producing a report every year suggest that biennial publication of the main report, with other targeted products over the intervening period, would be a more realistic and effective option.

Carros, C. "[From eternal love to Transferenceal love]." *Soins Psychiatr*. 2013 Nov-Dec;(289):26-30.

A teenager subject to a relationship break-up offloads his suffering onto a clinical psychologist at a medical-psychological centre. The therapy takes place over two stages, to construct shoring and thereby steer away from deadly thoughts.

Damore, D. R., J. A. O'Connor, et al. "Eternal work place change: Chaplains' response." Work. 2004;23(1):19-22.

A detailed chronology of a unique response to organizational change is explored and discussed through the example of the Chaplaincy Staff Support Service at Hamilton Health Sciences. Highlighted are the corporate and staff benefits of using chaplains' skills, training and existing roles in hospital life. A summary of the specific methodologies are provided to clarify the theoretical discussion. It is concluded that this is a fiscally efficient means of supporting staff to live out the highest organizational principles in difficult times.

Hammer, V. "[The eternal gardener]." Sudhoffs Arch. 2009;93(2):215-22.

The German master gardener Georg Meister (1653-1713) is one of the main characters responsible for a change in the European perception of Japan in the late 17th and early 18th century. Meister gained direct personal experience of the country during two short stays in the 1680s at the Dejima Island in Nagasaki while being employed by the Dutch VOC. Whilst an impression of Meister's earlier years can be gained, in part, from his masterpiece "Der orientalisches-indianische Kunst- und Lust-Garten" of 1692, this information is of only relatively small assistance in the further development of an understanding of Meister's later life in the Saxon city of Dresden, where he was employed as a gardener at the "Grosse Garten" after his return to Europe in 1689. In 1973 it was Friedemann Berger who first paid attention to the importance of Meister's later period. In his short biography are some valuable sources mentioned but unfortunately not quoted. This current paper documents some of the main sources relating to Georg Meister and his life in Dresden, including facts on his work and research, housing and death.

Koonin, E. V. "The cosmological model of eternal inflation and the transition from chance to biological evolution in the history of life." Biol Direct. 2007 May 31;2:15.

BACKGROUND: Recent developments in cosmology radically change the conception of the universe as well as the very notions of "probable" and "possible". The model of eternal inflation implies that all macroscopic histories permitted by laws of physics are repeated an infinite number of times in the infinite multiverse. In contrast to the traditional cosmological models of a single, finite universe, this worldview provides for the origin of an infinite number of complex systems by chance, even as the probability of complexity emerging in any given region of the multiverse is extremely low. This change in

perspective has profound implications for the history of any phenomenon, and life on earth cannot be an exception. **HYPOTHESIS:** Origin of life is a chicken and egg problem: for biological evolution that is governed, primarily, by natural selection, to take off, efficient systems for replication and translation are required, but even barebones cores of these systems appear to be products of extensive selection. The currently favored (partial) solution is an RNA world without proteins in which replication is catalyzed by ribozymes and which serves as the cradle for the translation system. However, the RNA world faces its own hard problems as ribozyme-catalyzed RNA replication remains a hypothesis and the selective pressures behind the origin of translation remain mysterious. Eternal inflation offers a viable alternative that is untenable in a finite universe, i.e., that a coupled system of translation and replication emerged by chance, and became the breakthrough stage from which biological evolution, centered around Darwinian selection, took off. A corollary of this hypothesis is that an RNA world, as a diverse population of replicating RNA molecules, might have never existed. In this model, the stage for Darwinian selection is set by anthropic selection of complex systems that rarely but inevitably emerge by chance in the infinite universe (multiverse). **CONCLUSION:** The plausibility of different models for the origin of life on earth directly depends on the adopted cosmological scenario. In an infinite universe (multiverse), emergence of highly complex systems by chance is inevitable. Therefore, under this cosmology, an entity as complex as a coupled translation-replication system should be considered a viable breakthrough stage for the onset of biological evolution. **REVIEWERS:** This article was reviewed by Eric Baptiste, David Krakauer, Sergei Maslov, and Itai Yanai.

Liu, H. M. "[Pulmonary vascular remodeling in congenital cardiovascular abnormalities: an eternal topic]." Zhongguo Dang Dai Er Ke Za Zhi. 2013 Oct;15(10):805-9.

Pulmonary arterial hypertension (PAH) is one of the most severe complications of congenital heart defects with left to right shunt. Pulmonary vascular remodeling (PVR) is extremely essential in PAH. Therefore, prevention and reversion of PVR is one of the most important factors for improving quality of life for children suffering from PAH. In this article we reviewed the emerging research views on PVR from the disciplines of oncology and anti-tumor pharmacy. Two main sections were included. On the one hand, we introduced the "ATM signal turning point hypothesis" from the DNA damage response (DDR) mechanism research in oncology. The hypothesis

suggests that the tumor-like proliferation of vascular smooth muscle cells might be the pathological basis of obstructive PAH. On the other hand, a new lung-targeted drug delivery system based on the fact that low concentration of anti-tumor drugs can inhibit angiogenesis without cellular toxicity was introduced. These new research directions could extend current practice in PVR therapy.

Orallo, F. "Trans-resveratrol: a magical elixir of eternal youth?" Curr Med Chem. 2008;15(19):1887-98.

Trans-resveratrol or (E)-resveratrol [3,4',5 trihydroxy-trans-stilbene, t-RESV or (E)-RESV] is a natural component of *Vitis vinifera* L. (Vitaceae), abundant in the skin of grapes (but not in the flesh) and in the leaf epidermis and present in wines (especially red wines). In in vitro, ex vivo and in vivo experiments, t-RESV exhibits a number of biological activities, including anti-inflammatory, antioxidant, platelet antiaggregatory and anticarcinogenic properties, and modulation of lipoprotein metabolism. Some of these activities have been implicated in the cardiovascular protective effects attributed to t-RESV and to red wine. Prior to 2002 there had been no previous studies describing the potential effects of t-RESV on the lifespan extension. However, in the last 5 years, several researchers have reported that t-RESV is a potent activator of sirtuin enzymatic activity, mimics the beneficial effects of caloric restriction (CR), retards the aging process and increases longevity in a number of organisms from different phyla such as yeasts, worms, flies and short-lived fish. In addition, t-RESV seems to be effective in delaying the onset of a variety of age-related diseases in mammals (e.g.: rodents). Therefore, this review will basically focus on the possible role of t-RESV to extend life duration and on some of the mechanisms by which t-RESV may act as an anti-aging agent.

Schaurich, D. "[I-THOU Eternal relationship in the life of caregivers of children with AIDS: study based on Martin Buber philosophy]." Rev Bras Enferm. 2011 Jul-Aug;64(4):651-7.

This phenomenological study aimed at understanding, in the light of Martin Buber's philosophy, what is to be a caregiver of children with AIDS. The phenomenological interview guided the meeting with seven caregivers of children with AIDS, selected in a teaching hospital of Porto Alegre-RS, southern of Brazil. The data were interpreted in the light of hermeneutics, emerging the unit of meaning Dialogues 'between' the familiar I and the Eternal THOU. The dialogues take place in the search for answers that allow the understanding of the significance of the impact and challenges they face while living with AIDS. As well, they reveal hope in

changes, in the cure and in a vaccine development. We believe that knowing the importance of dialogue in the context of HIV/AIDS epidemic provide the development of a nursing care that brings together the technical-scientific and humanistic aspects.

Seifert, V. "Clinical management of petroclival meningiomas and the eternal quest for preservation of quality of life: personal experiences over a period of 20 years." Acta Neurochir (Wien). 2010 Jul;152(7):1099-116. doi: 10.1007/s00701-010-0633-6. Epub 2010 Apr 25.

BACKGROUND: Within the realm of neurosurgery, petroclival meningiomas are regarded as probably the most difficult tumour to be treated by microsurgery. This is due to the not infrequently large size of the tumours which, although predominantly located in the posterior fossa, may occupy more than one cranial compartment, with often significant space-occupying effect and brain stem compression. Frequent tight brain stem adherence as well as encasement of the basilar artery, its perforators and cranial nerves adds to the sometimes extreme difficulties of surgical tumour removal. Counselling patients as well as pre- and intraoperative decision making in petroclival meningiomas is even more difficult because upon clinical and radiological tumour detection, despite sometimes surprisingly large tumours, clinical symptoms are often only mild. Summarising the complicated development of petroclival meningioma surgery over the last 60 years, this paper represents the conceptual thinking of the author in regard to the treatment of petroclival meningiomas which has evolved over more than two decades, based on a special interest in these treacherous tumours, and accumulated experiences in the treatment of over 150 patients. Surgical concepts and the operative decision-making process are demonstrated in four illustrative cases. **METHODS:** Over a period of slightly over 20 years, between January 1988 and December 2008, 161 patients with petroclival meningiomas were managed clinically by the author or under his direct surveillance in four academic neurosurgical institutions. The observation period ranged from 4 to 242 months. Thirteen patients were lost to follow-up so, all together, complete data were available for 148 patients. In 119 patients (80%), the tumour was large. Giant tumours accounted for 7% and 11 patients, medium-sized tumours were found in 12 patients (8%) and small tumours in only six patients (4%). Sixty-two percent of the patients had invasion of Meckel's cave or some part of the cavernous sinus, mainly the posterior region to different degrees. All giant tumours and one third of the large tumours extended into more than one cranial fossa. **RESULTS:** The treatment modalities in the 148

patients were as follows: microsurgery alone was performed in 71 patients (48%), microsurgery and adjuvant radiosurgery in 22 patients (15%) so in 93 patients (63%), altogether, microsurgery was the primary treatment. Twenty-nine patients (20%) underwent radiosurgery as their only treatment, and two patients (1%), during the very early phase of the study period, received radiotherapy. Twenty-four patients (16%) were only observed without any additional therapy. Gross total resection was achieved in 34 patients (37%), and subtotal resection, defined as removal of more than 90% of the tumour volume, was performed in another 36 patients (39%). Radical tumour removal was possible in 76% of the patients. There was no procedure-related death within 3 months post-surgery; the early post-op surgical complication rate was 31% with new neurological deficits or worsening of pre-existing deficits. During the observation period, almost all patients recovered significantly bringing the percentage of permanent neurological deficits, again mainly cranial nerve deficits, down to 22%. **CONCLUSIONS:** Based on the experiences of the author, the following treatment principles in petroclival meningiomas are proposed: small tumours in asymptomatic patients should be observed. If tumour growth is detected on serial magnetic resonance imaging or treatment is desired by the patient, surgery should be the first choice. Radiosurgery in growing small tumours should be reserved to patients with advanced age or significant co-morbidities. In medium-sized tumours and symptomatic patients, radical surgery should be attempted, if possible by judicious intraoperative judgement. In large and giant petroclival meningiomas, tumour resection as radical as possible judged intraoperatively with decompression of neural structures should be performed, followed by observation and, in the case of growing tumour remnants, radiosurgery. Thus, by a combined application of advanced microsurgical techniques, thoughtful, intraoperative decision making with limited surgical aggressiveness and, in selected patients, with small tumours or small tumour remnants simple observation or alternative or adjunct radiosurgery, excellent results as measured by tumour control and preservation of quality of life can be achieved.

Simons, F. E. The eternal triangle: benefit, risk, and cost of therapeutic agents, *Ann Allergy Asthma Immunol.* 1996 Nov;77(5):337-40.

Some people can undoubtedly tolerate a first-generation H1-receptor antagonist without sedation or other CNS adverse effects, but others cannot. There is no rapid, reliable way of differentiating these two populations. A history of presence or absence of subjective somnolence from one H1-receptor

antagonist is not necessarily reliable and has no consistently useful predictive value for subsequent experience with other H1-receptor antagonists. As H1-receptor antagonists are used primarily to treat non-life-threatening disorders, safety should be a prime consideration in selecting one for use, and is surely as important a concern as efficacy and low cost. If your pilot is not permitted to take these medications before going to work, why should your taxi driver, your child's school bus driver, your dentist, your nurse, or your office assistant, to name a few examples, be allowed to do so? When the broad issue of safety is considered, first-generation H1-receptor antagonists may not be as cost-effective as they appear to be. The inherent benefit of any medication is inextricably linked with the inherent risk. It is incumbent on those promulgating the use of the older H1-receptor antagonists to define these benefits and risk further. Lowering the cost of the second-generation, relatively non-sedating H1-receptor antagonists so they are no longer the most expensive medications used in treatment of allergic rhinitis would also help solve the problem of the eternal triangle as it pertains to therapeutic use of H1-receptor antagonists.

Vlami-Gardikas, A. "The multiple functions of the thiol-based electron flow pathways of *Escherichia coli*: Eternal concepts revisited." *Biochim Biophys Acta.* 2008 Nov;1780(11):1170-200. doi: 10.1016/j.bbagen.2008.03.013. Epub 2008 Apr 1.

Electron flow via thiols is a theme with many variations in all kingdoms of life. The favourable physicochemical properties of the redox active couple of two cysteines placed in the optimised environment of the thioredoxin fold allow for two electron transfers in between top biological reductants and ultimate oxidants. The reduction of ribonucleotide reductases by thioredoxin and thioredoxin reductase of *Escherichia coli* (*E. coli*) was one of the first pathways to be elucidated. Diverse functions such as protein folding in the periplasm, maturation of respiratory enzymes, detoxification of hydrogen peroxide and prevention of oxidative damage may be based on two electron transfers via thiols. A growing field is the relation of thiol reducing pathways and the interaction of *E. coli* with different organisms. This concept combined with the sequencing of the genomes of different bacteria may allow for the identification of fine differences in the systems employing thiols for electron flow between pathogens and their corresponding mammalian hosts. The emerging possibility is the development of novel antibiotics.

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