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Yarın ne olacağım, nereye göçeceğim? *

Tomorrow where to migrate? *

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***Yaşam sürdükçe gelecekte de göç devam edecek, etmelidir.**
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Yaşam devam ettiğine göre, gelecekte ne yapacağım?

Sabah uyanınca neyi yapmak istemek ötesinde, nelerle karşılaşacağımızı bilemeyiz, tahmin ederiz ancak. Yaşlanma ise doğal bir süreç olacaktır.

Bu nedenle geleceği bilemediğimize göre, kendimde tümden değişmesini istediklerim bu Makalede yer alacaktır.

Sevgi ve insanlık istenir ama nasıl olacaktır?

Bu makale bir değerlendirme boyutu olarak ele alınmaktadır.

En mutlu olunan yerler, mutluluk nerede, nerede olmak istersiniz gibi internetten sorgulama yapılacaktır.

Özet

Yarın ne olacağım, nereye göçeceğim?

Amaç: İnsan ötesi, hiçbir kimse yarın ne olacağını bilemez. Tahmin yürütebilir, onlarda eskiden alınan örnekler olmaktadır. Yaşamda gelecek bir değişim olacağı bilinir, ama nasıl, ne şekilde ve niçin olacağı bilinmez. Bu makale bu değişim üzerine yoğunlaşmadır.
Dayanaklar/Kaynaklar: Ansiklopedik bilgi ötesinde, gelecek ve yaklaşımlar üzerinde yorum yapılmaktadır.
Giriş: Zamanımızdaki veriler doğrultusunda gelecekte farklı yapılanma olacağı belirgindir. Bu boyutun, bir nevi göçün olasılığı ötesinde bir irdeleme yapılmaktadır.
Genel Yaklaşım; Göç insanı toptan değiştirici veya katıldığı toplumu değiştirici özelliği olduğu için, bu Makalede temel alınan kültürel etkileşimler olmaktadır.
Başlıca boyutlar: Göç, gelecekte de nasıl bizleri etkileyeceği vurgulanmaktadır.
Yaklaşım: İnsanın var oluşunun devam açısından gelecekte de göç parametresini gündemde tutmalıdır.
Sonuç: Gelecek yakın zamanda olmasa da uzak zamanda hazırlanmaya şimdi başlanılmalıdır.

Yorum: Bugün yaklaşımları yapan insana, yarın rahat edeceği belirgindir. Buna göre değişim yaşanmalıdır.
Anahtar Kelimeler: Gelecek bilinmez, ama değişim, göç olacağı kesindir

Outline

Tomorrow where to migrate?

AIM: As a Human being, no one knows the future, as estimations have grounding for today. Mostly taken from past, what you have, then, what you will be. This Article on differentiation as a matter for forthcoming.

Grounding Aspects: On encyclopedic knowledge, as future approach as evaluation confirmation.

Introduction: From today and past happenings, leading to a future, as in truth, but, not sure about it, just for discussion.

General Considerations: Migration means a distinction, even community on such influenced, so, cultural concepts as the main factor.

Proceeding: So, the future we are not on same concept, must be in improved aspect.

Notions and Conclusion: Today is the time for the progression, so, sure for tomorrow in progression.

Key Words: No one knows the future, thus, migration is obvious

Giriş

Bir yere gidince ne yapacağını daha önceden planlaman gerekir. Ama aynen gerçekleşmesi de beklenmez.

Tatilde olsan bile vakitlerini nasıl dolduracaksın? Yazman gerekenleri yazıp, yetiştirebilecek misin? Kısaca hepimizin bir planı vardır.

Bu sene yazın çok sıcak oldu. Bu belli idi, ne gibi tedbir aldın? Klimayı çalıştırmak ne kadar sorunu çözebilir? Dışardan sıcak hava, gereksinim olarak su içmek, ancak elektrolit dengesini bozmadan, mineralli su içerek bunu karşılamak gerekir.

Gelecek Bilinmez

Geleceğin ne olacağı bilinmez ise ne yapmalıyız?

- Önce bir tahminde bulunmamız gereklidir. Bunu somut, bilimsel verilere dayandırmalıyız. Bir kişinin kapasitesi vardır, daha hızlı yazabilirim derse bile fikirler gerekir, düşünmelidir. Hızlı yazmak için konuşmasını, fikirlerini yazıya dökmeyi öğrenmelidir.
- Elindeki imkanlara göre plan, proje yapılmalıdır. Zengin gibi düşünebilir, ama ihtiyacı daha doğrusu alabileceği şekilde plan yapmalıdır. Güçlü bilgisayar isteyebilir ama elindekini daha işlevsel kılması daha akılcı olur.
- Yaptıkları ile mutlu ve huzurlu olacak mıdır? Çalışmak, eser ve değer üretmek olmalıdır. Bu açıdan bakınca Cennette hiçbir iş yapılmayacak ise, o zaman insan ne yapacak, sıkıntıdan patlayacak mıdır?
- Yaptı, sonra devamını getirmeli ve daha ileri, daha gelişmiş ve düzenli bir ilerleme kaydetmelidir. Bu Dergileri yazarken, eski değil, daha ileri boyuta çıkmaya çalışmalıdır.
- İnsan somut olanı, matematiksel olarak ayırt edebilir ama soyut olanları ne şekilde irdeleyecektir?
- Yardımlaşma ve destek verme de somutu soyut anlamda yapmak ise, bu nasıl geliştirilecektir? Her yazı bile bir yardım, destek ve fayda elde edilen olmalıdır.

- Deney yaparken, etki gözlenecek hipotezi kurulmaz, etkisi olmayacaktır teoremi kurulur. Reddedilme boyutu da oranı %5 altında ise mükemmel, kısaca bir sorun vardır, nasıl belli olan görülmemiştir, oran %25 üstü olursa, tekrar düşün, yapmaya memnuniyet yaratacaksa denenebilir denir.

Kısaca gelecek bilinmez ama bir yöntem ve yaklaşım önceden belirlenebilir.

Kaynaklar

Kaynaklardan elde edilenler önemlidir. Çok hayali olan, fanteziler, görüşler kendilerinde kalsın, daha somut örnek alınacaklar irdelenecektir.

Prediction, Wikipedia[1]

A **prediction** (Latin *præ-*, "before," and *dicere*, "to say"), or **forecast**, is a statement about a future event or data. They are often, but not always, based upon experience or knowledge. There is no universal agreement about the exact difference from "estimation"; different authors and disciplines ascribe different connotations.
Future events are necessarily uncertain, so guaranteed accurate information about the future is impossible. Prediction can be useful to assist in making plans about possible developments.

Opinion

In a non-statistical sense, the term "prediction" is often used to refer to an informed guess or opinion.
A prediction of this kind might be informed by a predicting person's abductive reasoning, inductive reasoning, deductive reasoning, and experience; and may be useful—if the predicting person is a knowledgeable person in the field.[1]
The Delphi method is a technique for eliciting such expert-judgement-based predictions in a controlled way. This type of prediction might be perceived as consistent with statistical techniques in the sense that, at minimum, the "data" being used is the predicting expert's cognitive experiences forming an intuitive "probability curve."

Yorum

Gelecek bir tahmin olarak oluşmaktadır. Elma ağacı dikerseniz, armut veya portakal elde edemezsiniz. Elma da yenebilecek, yenmesi arzu edilen olmalıdır. Bu açıdan geleceği öngörmek, bir bilgi ve yaklaşımın sonucu oluşmaktadır.
Sorun sonuçta beklentinin karşılaması mıdır? Kanımca, tam değil, yarısını bile karşılaması, hatta başlanması bile, bana göre yeterli kabul edilmelidir.

Statistics

In statistics, prediction is a part of statistical inference. One particular approach to such inference is known as predictive inference, but the prediction can be undertaken within any of the several approaches to statistical inference. Indeed, one possible description of statistics is that it provides a means of transferring knowledge about a sample of a population to the whole population, and to other related populations, which is not necessarily the same as prediction over time. When information is transferred across time, often to specific points in time, the process is known as forecasting.[2][*failed verification*] Forecasting usually requires time series methods, while prediction is often performed on cross-sectional data.
Statistical techniques used for prediction include regression and its various sub-categories such as linear regression, generalized linear models (logistic regression, Poisson regression, Probit regression), etc. In case of forecasting, autoregressive moving average models and vector autoregression models can be utilized. When these and/or related, generalized set of regression or machine learning methods are deployed in commercial usage, the field is known as predictive analytics.[3]
In many applications, such as time series analysis, it is possible to estimate the models that generate the observations. If models can be expressed as transfer functions or in terms of state-space parameters then smoothed, filtered and predicted data estimates can be calculated.[*citation needed*] If the underlying generating models are linear then a minimum-variance Kalman filter and a minimum-variance smoother may be used to recover data of interest from noisy measurements. These techniques rely on one-step-ahead predictors (which minimize the variance of the prediction error). When the generating models are nonlinear then stepwise linearization's may be

applied within Extended Kalman Filter and smoother recursions. However, in nonlinear cases, optimum minimum-variance performance guarantees no longer apply.[4]
To use regression analysis for prediction, data are collected on the variable that is to be predicted, called the dependent variable or response variable, and on one or more variables whose values are hypothesized to influence it, called independent variables or explanatory variables. A functional form, often linear, is hypothesized for the postulated causal relationship, and the parameters of the function are estimated from the data—that is, are chosen so as to optimize is some way the fit of the function, thus parameterized, to the data. That is the estimation step. For the prediction step, explanatory variable values that are deemed relevant to future (or current but not yet observed) values of the dependent variable are input to the parameterized function to generate predictions for the dependent variable.[5]

Science

NASA's 2004 predictions of the solar cycle, which were inaccurate (predicting that solar cycle 24 would start in 2007 and be larger than cycle 23), and the refined predictions in 2012, showing it started in 2010 and is very small.
In science, a prediction is a rigorous, often quantitative, statement, forecasting what would be observed under specific conditions; for example, according to theories of gravity, if an apple fell from a tree it would be seen to move towards the center of the earth with a specified and constant acceleration. The scientific method is built on testing statements that are logical consequences of scientific theories. This is done through repeatable experiments or observational studies.
A scientific theory whose predictions are contradicted by observations and evidence will be rejected. New theories that generate many new predictions can more easily be supported or falsified (see predictive power). Notions that make no *testable* predictions are usually considered not to be part of science (protoscience or nescience) until testable predictions can be made.
Mathematical equations and models, and computer models, are frequently used to describe the past and future behaviour of a process within the boundaries of that model. In some cases the probability of an outcome, rather than a specific outcome, can be predicted, for example in much of quantum physics.
In microprocessors, branch prediction permits avoidance of pipeline emptying at branch instructions.
In engineering, possible failure modes are predicted and avoided by correcting the failure mechanism causing the failure.
Accurate prediction and forecasting are very difficult in some areas, such as natural disasters, pandemics, demography, population dynamics and meteorology. For example, it is possible to predict the occurrence of solar cycles, but their exact timing and magnitude is much more difficult (see picture to right).
In materials engineering it is also possible to predict the life time of a material with a mathematical model.[6]
In medical science predictive and prognostic biomarkers can be used to predict patient outcomes in response to various treatment or the probability of a clinical event.[7]

Yorum

Her boyut bilim üzere oluşur. Mucize denilenler de temelde bilim üzeredir. Kızıl Denizin yarılması, o dönemlerde bir Tsunami boyutu olması ile ilintili olduğu, jeolojik verilere göre bir veri kaydı olduğu görülecektir.
Doğa, yaratılışa aykırı öngörüler, sadece destan yapısında olduğu bilinmelidir.

Hypothesis

Established science makes useful predictions which are often extremely reliable and accurate; for example, eclipses are routinely predicted.
New theories make predictions which allow them to be disproved by reality. For example, predicting the structure of crystals at the atomic level is a current research challenge.[8] In the early 20th century the scientific consensus was that there existed an absolute frame of reference, which was given the name *luminiferous ether*. The existence of this absolute frame was deemed necessary for consistency with the established idea that the speed of light is constant. The famous Michelson–Morley experiment demonstrated that predictions deduced from this concept were not borne out in reality, thus disproving the theory of an absolute frame of reference. The special theory of relativity was proposed by Einstein as an explanation for the seeming inconsistency between the constancy of the speed of light and the non-existence of a special, preferred or absolute frame of reference.

Albert Einstein's theory of general relativity could not easily be tested as it did not produce any effects observable on a terrestrial scale. However, as one of the first tests of general relativity, the theory predicted that large masses such as stars would bend light, in contradiction to accepted theory; this was observed in a 1919 eclipse.

Yorum

Teorik ile pratik uymayabilir. Açıklaması bilimsel olmalıdır.
Örneğin; İçel'de akşam balık yemek için sahilde arkadaşım yer ayırtmıştı. Telefon ile 3 farklı programa baktık, yağış göstermiyordu. Ancak giderken damlalar başladı. Arabada devamlı şemsiye varmış. Gittiğimiz yerde yağış var ama meteorolojik olarak yok idi. Benden açıklamam istendi, bilmiyorum ama sıcak havada bulut oluşuyor, akşam soğukta yere çöküyor, üst düzey olmadığına göre, meteoroloji kaydına geçmiyor dedim.
Doğru ve yanlış bilmiyorum ama bilimsel açıklama oldu.
Gelecek bilinmez ama tedbir alan, programlı olan daima kazançlı olacaktır.

Medicine and healthcare
Predictive medicine

Predictive medicine is a field of medicine that entails predicting the probability of disease and instituting preventive measures in order to either prevent the disease altogether or significantly decrease its impact upon the patient (such as by preventing mortality or limiting morbidity).[9]

While different prediction methodologies exist, such as genomics, proteomics, and cytomics, the most fundamental way to predict future disease is based on genetics. Although proteomics and cytomics allow for the early detection of disease, much of the time those detect biological markers that exist because a disease process has *already* started. However, comprehensive genetic testing (such as through the use of DNA arrays or full genome sequencing) allows for the estimation of disease risk years to decades before any disease even exists, or even whether a healthy fetus is at higher risk for developing a disease in adolescence or adulthood. Individuals who are more susceptible to disease in the future can be offered lifestyle advice or medication with the aim of preventing the predicted illness.

Current genetic testing guidelines supported by the health care professionals discourage purely predictive genetic testing of minors until they are competent to understand the relevancy of genetic screening so as to allow them to participate in the decision about whether or not it is appropriate for them.[10] Genetic screening of newborns and children in the field of predictive medicine is deemed appropriate if there is a compelling clinical reason to do so, such as the availability of prevention or treatment as a child that would prevent future disease.

Yorum

Zamanımızda artık olasılıklar göre yaklaşım yapılmaktadır.
Tedbir her zaman bir uyarı ötesinde, salgın olmasını önler. En başta aşılama bunun için önemlidir. Geometrik artış, salgın yerine aşı olununca, aritmetik artar ve kontrol edilebilir.

Prognosis

Prognosis (Greek: πρόγνωσις "fore-knowing, foreseeing"; pl: prognoses) is a medical term for predicting the likelihood or expected development of a disease, including whether the signs and symptoms will improve or worsen (and how quickly) or remain stable over time; expectations of quality of life, such as the ability to carry out daily activities; the potential for complications and associated health issues; and the likelihood of survival (including life expectancy).[11][12] A prognosis is made on the basis of the normal course of the diagnosed disease, the individual's physical and mental condition, the available treatments, and additional factors.[12] A complete prognosis includes the expected duration, function, and description of the course of the disease, such as progressive decline, intermittent crisis, or sudden, unpredictable crisis.

When applied to large statistical populations, prognostic estimates can be very accurate: for example the statement "45% of patients with severe septic shock will die within 28 days" can be made with some confidence, because previous research found that this proportion of patients died. This statistical information does not apply to the prognosis for each individual patient, because patient-specific factors can substantially change the expected course of the disease: additional information is needed to determine whether a patient belongs to the 45% who will die, or to the 55% who survive.[13]

Yorum

Her bireye göre farklıdır. Bu nedenle kitap bilgisi yanılmaya neden olabilir. Tedaviye başladıktan sonra elde edilen sonuca göre irdelenmesi daha net sonuca götürebilir. Her veri ile daha bir değerlendirme yapılmalıdır. Bu nedenle *hastalık yok, hasta var* prensibi geçerlidir.
Hasta bilgilendirme boyutunda, hastaya hastalığı anlatmak değil, hastalığın bireyde yaptığı etkileşimleri anlatmak gerekir.

Clinical prediction rules

A clinical prediction rule or clinical probability assessment specifies how to use medical signs, symptoms, and other findings to estimate the probability of a specific disease or clinical outcome.[14]
Physicians have difficulty in estimated risks of diseases; frequently erring towards overestimation,[15] perhaps due to cognitive biases such as base rate fallacy in which the risk of an adverse outcome is exaggerated.

Yorum

Özellikle kanser olgularında aileler, sonucu merak ederler.
Bir arkadaşımız pankreas başı kanserine yakalanmış, ileri metastazları da varmış. Kitapta iki aylık bir yaşam vermiş, eziyet görmemeyi, tedavi görmemeyi diledi. Bir doz tedavi al, sonra karar ver, aynı zamanda ağrın olmaması için, morfin dahil ancak tedavi ile verilir dedim. İlk dozda %50 den fazla ufalma oldu, tedaviye devam etti, metastaz olmasına karşın, morfine gereksinimi olmadı. Bir yıl yaşadı, evde olduğu için, ailesi ile son vedalaşmayı yaşayabildi.
Sosyal boyutta, ailesi ile adeta çocukları nefret duyuyorlarmış, disiplinli olduğu için babalarına kızıyorlarmış. Bu süreçte anlaştılar, rahat bir şekilde son nefesini verdi. Kısaca kazancı sosyal boyutta, ailesini kazanmış oldu.

Finance

Mathematical models of stock market behaviour (and economic behaviour in general) is also unreliable in predicting future behaviour. Among other reasons, this is because economic events may span several years, and the world is changing over a similar time frame, thus invalidating the relevance of past observations to the present. Thus, there are an extremely small number (of the order of 1) of relevant past data points from which to project the future. In addition, it is generally believed that stock market prices already take into account all the information available to predict the future, and subsequent movements must therefore be the result of unforeseen events. Consequently, it is extremely difficult for a stock investor to anticipate or predict a stock market boom, or a stock market crash. In contrast to predicting the actual stock return, forecasting of broad economic trends tends to have better accuracy. Such analysis is provided by both non-profit groups as well as by for-profit private institutions.[*citation needed*]
Some correlation has been seen between actual stock market movements and prediction data from large groups in surveys and prediction games.
An actuary uses actuarial science to assess and predict future business risk, such that the risk(s) can be mitigated. For example, in insurance an actuary would use a life table (which incorporates the historical experience of mortality rates and sometimes an estimate of future trends) to project life expectancy.

Yorum

Kazanç sadece para üzerinden olmamalıdır. Sosyal boyut da katılmalıdır.
Döner Sermaye işletmelerinde, her bir gelir getiren bir havuz olarak irdelenmiş, yaptıkları masraflar çıkarılmış, net gelir hesap edilmiştir. %50 personele, %25 yatırıma, %5-10 araştırma fonuna, %10 ücretsiz olgu olarak hesaplanmaktadır. Sosyal boyut, %25 civarında tutmaktadır.

Sports

Predicting the outcome of sporting events is a business which has grown in popularity in recent years. Handicappers predict the outcome of games using a variety of mathematical formulas, simulation models or qualitative analysis. Early, well-known sports bettors, such as Jimmy the Greek, were believed to have access to information that gave them an edge. Information ranged from personal issues, such as gambling or drinking to undisclosed injuries; anything that may affect the performance of a player on the field.

Recent times have changed the way sports are predicted. Predictions now typically consist of two distinct approaches: Situational plays and statistical based models. Situational plays are much more difficult to measure because they usually involve the motivation of a team. Dan Gordon, noted handicapper, wrote "Without an emotional edge in a game in addition to value in a line, I won't put my money on it".[16] These types of plays consist of: Betting on the home underdog, betting against Monday Night winners if they are a favorite next week, betting the underdog in "look ahead" games etc. As situational plays become more widely known they become less useful because they will impact the way the line is set.

The widespread use of technology has brought with it more modern sports betting systems. These systems are typically algorithms and simulation models based on regression analysis. Jeff Sagarin, a sports statistician, has brought attention to sports by having the results of his models published in USA Today. He is currently paid as a consultant by the Dallas Mavericks for his advice on lineups and the use of his Winval system, which evaluates free agents. Brian Burke, a former Navy fighter pilot turned sports statistician, has published his results of using regression analysis to predict the outcome of NFL games.[17] Ken Pomeroy is widely accepted as a leading authority on college basketball statistics. His website includes his College Basketball Ratings, a tempo-based statistics system. Some statisticians have become very famous for having successful prediction systems. Dare wrote "the effective odds for sports betting and horse racing are a direct result of human decisions and can therefore potentially exhibit consistent error".[18] Unlike other games offered in a casino, prediction in sporting events can be both logical and consistent.

Other more advance models include those based on Bayesian networks, which are causal probabilistic models commonly used for risk analysis and decision support. Based on this kind of mathematical modelling, Constantinou et al.,[19][20] have developed models for predicting the outcome of association football matches.[21] What makes these models interesting is that, apart from taking into consideration relevant historical data, they also incorporate all these vague subjective factors, like availability of key players, team fatigue, team motivation and so on. They provide the user with the ability to include their best guesses about things that there are no hard facts available. This additional information is then combined with historical facts to provide a revised prediction for future match outcomes. The initial results based on these modelling practices are encouraging since they have demonstrated consistent profitability against published market odds.

Nowadays sport betting is a huge business; there are many websites (systems) alongside betting sites, which give tips or predictions for future games.[22] Some of these prediction websites (tipsters) are based on human predictions, but others on computer software sometimes called prediction robots or bots. Prediction bots can use different amount of data and algorithms and because of that their accuracy may vary.

Sites such as Tzefi.com maintain that other sites' claim that they simulate the game 50,000 times before it's actually played on the field, is quite misleading and incorrect. This is due to the fact that those sites don't consider the human element of the game, and that a batter with a .330 ERA may strike out when the bases are loaded, or a quarterback with a 100+ passer rating may throw an interception at a crucial time. Tzefi.com boasts a 64.5% accuracy in predicting NFL games.

Yorum

Bedenin bir toparlanma süreci vardır. 5-10 gün de adale ancak toparlanabilir. Acele ve güçlü idman yapılmaz, nekahet geçirilmelidir.

Ayrıca büyük yarışmalardan sonra adalenin istirahati için 2-3 gün otelde istirahat ettirilmelidir. Kısaca bireye göre spor yapılmalıdır. Yarışmaya katılacak olanlarda, ürik asit oluşumu, ketozis ve diğer metabolik parametreler izlenmelidir. İstek değil, bedenin kabulü öne çıkmalıdır.

Social science

Prediction in the non-economic social sciences differs from the natural sciences and includes multiple alternative methods such as trend projection, forecasting, scenario-building and Delphi surveys. The oil company Shell is particularly well known for its scenario-building activities.[*citation needed*]

One reason for the peculiarity of societal prediction is that in the social sciences, "predictors are part of the social context about which they are trying to make a prediction and may influence that context in the process".[23] As a consequence, societal predictions can become self-destructing. For example, a forecast that a large percentage of a population will become HIV infected based on existing trends may cause more people to avoid risky behavior and thus reduce the HIV infection rate, invalidating the forecast (which might have remained correct if it had not been publicly known). Or, a prediction that cybersecurity will become a major issue may cause organizations to implement more security cybersecurity measures, thus limiting the issue.[23]

In politics it is common to attempt to predict the outcome of elections via political forecasting techniques (or assess the popularity of politicians) through the use of opinion polls. Prediction games have been used by many corporations and governments to learn about the most likely outcome of future events.

Yorum

Sosyal yapılanmada, birçok kültürel boyut devreye girmektedir. Bu açıdan tamamen sübjektif bir yaklaşım olmakta, her bir durum farklı olmaktadır.
Politika adı altında göçmenlere karşı çıkanlar, bir zamanlar ailelerinin de göçmen olduğunu unutmaktadırlar.
Konu İnsan Hakları olarak ele alınmalıdır. Yaşam hakkı en önemli haktır.

Prophecy

Predictions have often been made, from antiquity until the present, by using paranormal or supernatural means such as prophecy or by observing omens. Methods including water divining, astrology, numerology, fortune telling, interpretation of dreams, and many other forms of divination, have been used for millennia to attempt to predict the future. These means of prediction have not been proven by scientific experiments.

In literature, vision and prophecy are literary devices used to present a possible timeline of future events. They can be distinguished by vision referring to what an individual sees happen. The book of Revelation, in the New Testament, thus uses vision as a literary device in this regard. It is also prophecy or prophetic literature when it is related by an individual in a sermon or another public forum.

Divination is the attempt to gain insight into a question or situation by way of an occultic standardized process or ritual.[24] It is an integral part of witchcraft and has been used in various forms for thousands of years. Diviners ascertain their interpretations of how a querent should proceed by reading signs, events, or omens, or through alleged contact with a supernatural agency, most often described as an angel or a god though viewed by Christians and Jews as a fallen angel or demon.[25]

Fiction

Fiction (especially fantasy, forecasting and science fiction) often features instances of prediction achieved by unconventional means.

In fantasy literature, predictions are often obtained through magic or prophecy, sometimes referring back to old traditions. For example, in J. R. R. Tolkien's *The Lord of the Rings*, many of the characters possess an awareness of events extending into the future, sometimes as prophecies, sometimes as more-or-less vague 'feelings'. The character Galadriel, in addition, employs a water "mirror" to show images, sometimes of possible future events.

In some of Philip K. Dick's stories, mutant humans called *precogs* can foresee the future (ranging from days to years). In the story called *The Golden Man*, an exceptional mutant can predict the future to an indefinite range (presumably up to his death), and thus becomes completely non-human, an animal that follows the predicted paths automatically. Precogs also play an essential role in another of Dick's stories, *The Minority Report*, which was turned into a film by Steven Spielberg in 2002.

In the *Foundation* series by Isaac Asimov, a mathematician finds out that historical events (up to some detail) can be theoretically modelled using equations, and then spends years trying to put the theory in practice. The new science of psychohistory founded upon his success can simulate history and extrapolate the present into the future.

In Frank Herbert's sequels to 1965's *Dune*, his characters are dealing with the repercussions of being able to see the possible futures and select amongst them. Herbert sees this as a trap of stagnation, and his characters follow a so-called "Golden Path" out of the trap.

In Ursula K. Le Guin's *The Left Hand of Darkness*, the humanoid inhabitants of planet Gethen have mastered the art of prophecy and routinely produce data on past, present or future events on request. In this story, this was a minor plot device.

Yorum

Özellikle dini konularda abartı çok fazladır. Gerçekte ise bilim üzere yapılanırlar ve yorumlar gerçektir.
Örneğin Hz. İsa'nın canlandırma yapması, bizim yaptığımızdan farklı olması beklenmemelidir. Hz. İsa, bazı kuş modelleri yapıp uçurmuş, bizlerde kâğıttan uçak yapıp uçurmuyor muyuz?

Hz. Muhammet'in mucize getirmemesi büyük bir tenkit unsuru olmuş, ölümünden 250 yıl sonra sözleri geleceği bilen bir yapı şekline dönüşmüştür. Zamanında ise, Peygamber sözü değil, Kuran olunca, ayetlere uygun ise uymuşlar, zamanında peygamberin önerisini, Kuran kaynaklı değilse, uygulamamışlardır.

Poetry

For the ancients, prediction, prophesy, and poetry were often intertwined.[26] Prophecies were given in verse, and a word for poet in Latin is "vates" or prophet.[26] Both poets and prophets claimed to be inspired by forces outside themselves. In contemporary cultures, theological revelation and poetry are typically seen as distinct and often even as opposed to each other. Yet the two still are often understood together as symbiotic in their origins, aims, and purposes.[27]

Yorum

Birçok geleneksel kalanlar şiirsel vurgulardır. Mevlâna ve Ömer Hayyam yazdıkları şiirsel olması ile etkinliği güçlü olmuştur.
Ömer Hayyam 150 civarında şiiri olduğu ifade edilirken, 400'e yakın olması, o gruptaki kişilerin benzer eklemeler yaptığı söylenebilir.

Unutmamak gerekir ki kimse geleceği bilmez, tahminler bilimsel ise anlamı olur.

Timeline of the far future, Wikipedia[2]

While the future cannot be predicted with certainty, present understanding in various scientific fields allows for the prediction of some far-future events, if only in the broadest outline.[1][2][3][4] These fields include astrophysics, which studies how planets and stars form, interact, and die; particle physics, which has revealed how matter behaves at the smallest scales; evolutionary biology, which studies how life evolves over time; plate tectonics, which shows how continents shift over millennia; and sociology, which examines how human societies and cultures evolve.
These timelines begin at the start of the 4th millennium in 3001 CE, and continue until the furthest reaches of future time. They include alternative future events that address unresolved scientific questions, such as whether humans will become extinct, whether the Earth survives when the Sun expands to become a red giant and whether proton decay will be the eventual end of all matter in the Universe.

Lists

Keys

★	Astronomy and astrophysics
	Geology and planetary science
	Biology
Ψ	Particle physics
π	Mathematics
	Technology and culture

Earth, the Solar System, and the Universe

All projections of the future of Earth, the Solar System, and the universe must account for the second law of thermodynamics, which states that entropy, or a loss of the energy available to do work, must rise over time.[5] Stars will eventually exhaust their supply of hydrogen fuel and burn out. The Sun will likely expand sufficiently to overwhelm many of the inner planets (Mercury, Venus, possibly Earth), but not the giant planets, including Jupiter and Saturn. Afterwards, the Sun would be reduced to the size of a white dwarf, and the outer planets and their moons would continue orbiting this diminutive solar remnant. This future situation may be similar to the white dwarf star MOA-2010-BLG-477L and the Jupiter-sized exoplanet orbiting it.[6][7][8]
Long after the death of the solar system, physicists expect that matter itself will eventually disintegrate under the influence of radioactive decay, as even the most stable materials break apart into subatomic particles.[9] Current data suggest that the universe has a flat geometry (or very close to flat), and thus will not collapse in on itself after a finite time.[10] This infinite future allows for the occurrence of even massively improbable events, such as the formation of Boltzmann brains.[11]

	Years from now	Event
★	1,000	Due to the lunar tides decelerating the Earth's rotation, the average length of a solar day will be 1⁄30 SI second longer than it is today. To compensate, either a leap second will have to be added to the end of a day multiple times during each month, or one or more consecutive leap seconds will have to be added at the end of some or all months.[12]
★	1,100	As Earth's poles process, Gamma Cephei replaces Polaris as the northern pole star.[13]
	10,000	If a failure of the Wilkes Subglacial Basin "ice plug" in the next few centuries were to endanger the East Antarctic Ice Sheet, it would take up to this long to melt completely. Sea levels would rise 3 to 4 metres.[14] One of the potential long-term effects of global warming, this is separate from the shorter-term threat to the West Antarctic Ice Sheet.
★	10,000 - 1 million[note 1]	The red supergiant stars Betelgeuse and Antares will likely have exploded as supernovae. For a few months, the explosions should be easily visible on Earth in daylight.[15][16][17][18][19]
★	11,700	As Earth's poles process, Vega, the fifth-brightest star in the sky, becomes the northern pole star.[20] Although Earth cycles through many different naked eye northern pole stars, Vega is the brightest.
★	11,000–15,000	By this point, halfway through Earth's precessional cycle, Earth's axial tilt will be mirrored, causing summer and winter to occur on opposite sides of Earth's orbit. This means that the seasons in the Southern Hemisphere will be less extreme than they are today, as it will be facing away from the Sun at Earth's perihelion and towards the Sun at aphelion, while the seasons in the Northern Hemisphere, which experiences more pronounced seasonal variation due to a higher percentage of land, will be more extreme.[21]
	15,000	According to the Sahara pump theory, the oscillating tilt of Earth's poles will move the North African Monsoon far enough north to change the climate of the Sahara back into a tropical one such as it had 5,000–10,000 years ago.[22][23]
	17,000[note 1]	The best-guess recurrence rate for a "civilization-threatening" supervolcanic eruption large enough to eject one teratorn (one trillion tones) of pyroclastic material.[24][25]
	25,000	Mars' northern polar ice cap could recede as Mars reaches a warming peak of the northern hemisphere during the c. 50,000-year perihelion precession aspect of its Milankovitch cycle.[26][27]
★	36,000	The small red dwarf Ross 248 will pass within 3.024 light-years of Earth, becoming the closest star to the Sun.[28] It will recede after about 8,000 years, making first Alpha Centauri (again) and then Gliese 445 the nearest stars[28] (see timeline).
	50,000	According to Berger and Loutre (2002), the current interglacial period will end,[29] sending the Earth back into a glacial period of the current ice age, regardless of the effects of anthropogenic global warming. However, according to more recent studies in 2016, anthropogenic climate change, if left unchecked, may delay this otherwise expected glacial period by as much as an additional 50,000 years, potentially skipping it entirely.[30] Niagara Falls will have eroded the remaining 32 km to Lake Erie, and will therefore cease to exist.[31] The many glacial lakes of the Canadian Shield will have been erased by post-glacial rebound and erosion.[32]
★	50,000	Due to lunar tides decelerating the Earth's rotation, a day on Earth is expected to be one SI second longer than it is today. In order to compensate, either a leap second will have to be added to the end of every day, or the length of the day will have to be officially lengthened by one SI second.[12]
★	100,000	The proper motion of stars across the celestial sphere, which results from their movement through the Milky Way, renders many of the constellations unrecognizable.[33]
★	100,000[note 1]	The red hypergiant star VY Canis Majoris will likely have exploded in a supernova.[34]
	100,000	Native North American earthworms, such as Megasocieties, will have naturally spread north through the United States Upper Midwest to the Canada–US border, recovering from the Laurentide Ice Sheet glaciation (38°N to 49°N), assuming a migration rate of 10 metres per year.[35] (However, humans have already introduced non-native invasive earthworms of North America on a much shorter timescale, causing a shock to the regional ecosystem.)
★	100,000–10 million[note 1]	Cupid and Belinda, moons of Uranus, will likely have collided.[36]
	> 100,000	As one of the long-term effects of global warming, 10% of anthropogenic carbon dioxide will still remain in a stabilized atmosphere.[37]
	250,000	Kamaʻehuakanaloa (formerly Lōʻihi), the youngest volcano in the Hawaiian–Emperor seamount chain, will rise above the surface of the ocean and become a new volcanic island.[38]

★	c. 300,000[note 1]	At some point in the next few hundred thousand years, the Wolf–Rayet star WR 104 may explode in a supernova. There is a small chance WR 104 is spinning fast enough to produce a gamma-ray burst, and an even smaller chance that such a GRB could pose a threat to life on Earth.[39][40]
★	500,000[note 1]	Earth will likely have been hit by an asteroid of roughly 1 km in diameter, assuming that it is not averted.[41]
	500,000	The rugged terrain of Badlands National Park in South Dakota will have eroded completely.[42]
	1 million	Meteor Crater, a large impact crater in Arizona considered the "freshest" of its kind, will have worn away.[43]
★	1 million[note 1]	Desdemona and Cressida, moons of Uranus, will likely have collided.[44]
★	1.35 ± 0.05 million	The star Gliese 710 will pass as close as 0.0676 parsecs—0.221 light-years (14,000 astronomical units)[45] to the Sun before moving away. This will gravitationally perturb members of the Oort cloud, a halo of icy bodies orbiting at the edge of the Solar System, thereafter raising the likelihood of a cometary impact in the inner Solar System.[46]
	2 million	The estimated time for the full recovery of coral reef ecosystems from human-caused ocean acidification if such acidification goes unchecked; the recovery of marine ecosystems after the acidification event that occurred about 65 million years ago took a similar length of time.[47]
	2 million+	The Grand Canyon will erode further, deepening slightly, but principally widening into a broad valley surrounding the Colorado River.[48]
★	2.7 million	The average orbital half-life of current centaurs, that are unstable because of gravitational interaction of the several outer planets.[49] See predictions for notable centaurs.
★	3 million	Due to tidal deceleration gradually slowing Earth's rotation, a day on Earth is expected to be one minute longer than it is today.[12]
	10 million	The Red Sea will flood the widening East African Rift valley, causing a new ocean basin to divide the continent of Africa[50] and the African Plate into the newly formed Nubian Plate and the Somali Plate. The Indian Plate will advance into Tibet by 180 km (110 mi). Nepali territory, whose boundaries are defined by the Himalayan peaks and on the plains of India, will cease to exist.[51]
	10 million	The estimated time for full recovery of biodiversity after a potential Holocene extinction, if it were on the scale of the five previous major extinction events.[52] Even without a mass extinction, by this time most current species will have disappeared through the background extinction rate, with many clades gradually evolving into new forms.[53][54]
★	50 million	Maximum estimated time before the moon Phobos collides with Mars.[55]
	50 million	According to Christopher R. Scotese, the movement of the San Andreas Fault will cause the Gulf of California to flood into the Central Valley. This will form a new inland sea on the West Coast of North America, causing the current locations of Los Angeles and San Francisco to merge.[56][*failed verification*] The Californian coast will begin to be subducted into the Aleutian Trench.[57] Africa's collision with Eurasia will close the Mediterranean Basin and create a mountain range similar to the Himalayas.[58] The Appalachian Mountains peaks will largely wear away,[59] weathering at 5.7 Bubnoff units, although topography will actually rise as regional valleys deepen at twice this rate.[60]
	50–60 million	The Canadian Rockies will wear away to a plain, assuming a rate of 60 Bubnoff units.[61] The Southern Rockies in the United States are eroding at a somewhat slower rate.[62]
	50–400 million	The estimated time for Earth to naturally replenish its fossil fuel reserves.[63]
	80 million	The Big Island will have become the last of the current Hawaiian Islands to sink beneath the surface of the ocean, while a more recently formed chain of "new Hawaiian Islands" will then have emerged in their place.[64]
★	100 million[note 1]	Earth will likely have been hit by an asteroid comparable in size to the one that triggered the K–Pg extinction 66 million years ago, assuming this is not averted.[65]
	100 million	According to the Pangaea Proxima Model created by Christopher R. Scotese, a new subduction zone will open in the Atlantic Ocean and the Americas will begin to converge back toward Africa.[56][*failed verification*] Upper estimate for lifespan of the rings of Saturn in their current state.[66]
★	110 million	The Sun's luminosity will have increased by 1%.[67]
★	180 million	Due to the gradual slowing of Earth's rotation, a day on Earth will be one hour longer than it is today.[12]
★	240 million	From its present position, the Solar System completes one full orbit of the Galactic Center.[68]

	250 million	According to Christopher R. Scotese, due to the northward movement of the West Coast of North America, the coast of California will collide with Alaska.[56][*failed verification*]
	250–350 million	All the continents on Earth may fuse into a supercontinent.[56][69] Four potential arrangements of this configuration have been dubbed Amasia, Novopangaea, Pangaea Proxima, and Aurica. This will likely result in a glacial period, lowering sea levels and increasing oxygen levels, further lowering global temperatures.[70][71]
	> 250 million	Rapid biological evolution may occur due to the formation of a supercontinent causing lower temperatures and higher oxygen levels.[71] Increased competition between species due to the formation of a supercontinent, increased volcanic activity and less hospitable conditions due to global warming from a brighter Sun could result in a mass extinction event from which plant and animal life may not fully recover.[72]
	300 million	Due to a shift in the equatorial Hadley cells to roughly 40° north and south, the amount of arid land will increase by 25%.[72]
	300–600 million	The estimated time for Venus's mantle temperature to reach its maximum. Then, over a period of about 100 million years, major subduction occurs and the crust is recycled.[73]
	350 million	According to the extroversion model first developed by Paul F. Hoffman, subduction ceases in the Pacific Ocean Basin.[69][74][75]
	400–500 million	The supercontinent (Pangaea Ultima, Novopangaea, Amasia, or Aurica) will likely have drifted apart.[69] This will likely result in higher global temperatures, similar to the Cretaceous period.[71]
	500 million[note 1]	The estimated time until a gamma-ray burst, or massive, hyperenergetic supernova, occurs within 6,500 light-years of Earth; close enough for its rays to affect Earth's ozone layer and potentially trigger a mass extinction, assuming the hypothesis is correct that a previous such explosion triggered the Ordovician–Silurian extinction event. However, the supernova would have to be precisely oriented relative to Earth to have such effect.[76]
	600 million	Tidal acceleration moves the Moon far enough from Earth that total solar eclipses are no longer possible.[77]
	500–600 million	The Sun's increasing luminosity begins to disrupt the carbonate–silicate cycle; higher luminosity increases weathering of surface rocks, which traps carbon dioxide in the ground as carbonate. As water evaporates from the Earth's surface, rocks harden, causing plate tectonics to slow and eventually stop once the oceans evaporate completely. With less volcanism to recycle carbon into the Earth's atmosphere, carbon dioxide levels begin to fall.[78] By this time, carbon dioxide levels will fall to the point at which C_3 photosynthesis is no longer possible. All plants that use C_3 photosynthesis (≈99 percent of present-day species) will die.[79] The extinction of C_3 plant life is likely to be a long-term decline rather than a sharp drop. It is likely that plant groups will die one by one well before the critical carbon dioxide level is reached. The first plants to disappear will be C_3 herbaceous plants, followed by deciduous forests, evergreen broad-leaf forests and finally evergreen conifers.[72]
	500–800 million	As Earth begins to warm and carbon dioxide levels fall, plants—and, by extension, animals—could survive longer by evolving other strategies such as requiring less carbon dioxide for photosynthetic processes, becoming carnivorous, adapting to desiccation, or associating with fungi. These adaptations are likely to appear near the beginning of the moist greenhouse.[72] The decrease in plant life will result in less oxygen in the atmosphere, allowing for more DNA-damaging ultraviolet radiation to reach the surface. The rising temperatures will increase chemical reactions in the atmosphere, further lowering oxygen levels. Plant and animal communities become increasingly sparse and isolated as the Earth becomes more barren. Flying animals would be better off because of their ability to travel large distances looking for cooler temperatures.[80] Many animals may be driven to the poles or possibly underground. These creatures would become active during the polar night and aestivate during the polar day due to the intense heat and radiation. Much of the land would become a barren desert, and plants and animals would primarily be found in the oceans.[80]
	500–800 million	As pointed out by Peter Ward and Donald Brownlee in their book *The Life and Death of Planet Earth*, according to NASA Ames scientist Kevin Zahnle, this is the earliest time for plate tectonics to eventually stop, due to the gradual cooling of the Earth's core, which could potentially turn the Earth back into a water world. This would in turn, likely cause the extinction of animal life on Earth.[80]
	800–900 million	Carbon dioxide levels will fall to the point at which C_4 photosynthesis is no longer possible.[79] Without plant life to recycle oxygen in the atmosphere, free oxygen and the ozone layer will disappear from the atmosphere allowing for intense levels of deadly UV light to reach the surface. Animals in food chains that were dependent on live plants will disappear shortly afterward.[72] At most, animal life could survive about 3 - 100 million years after plant life dies out. Just like plants, the extinction of animals will likely coincide with the loss of plants. It will start with large animals, then smaller animals and flying creatures, then amphibians, followed by reptiles, and finally, invertebrates.[78] In the book *The Life and Death of Planet Earth*, authors Peter D. Ward and Donald Brownlee state that some animal life may be able to survive in the oceans. Eventually, however, all multicellular life will die out.[81] The first sea animals to go extinct will be large fish, followed by small fish, and then finally, invertebrates.[78] The last animals to go extinct will be animals that do not depend on living plants, such as termites, or those near hydrothermal vents, such as worms of the genus *Riftia*.[72] The only life left on the Earth after this will be single-celled organisms.

	1 billion[note 2]	27% of the ocean's mass will have been subducted into the mantle. If this were to continue uninterrupted, it would reach an equilibrium where 65% of present-day surface water would be subducted.[82]
	1.1 billion	The Sun's luminosity will have increased by 10%, causing Earth's surface temperatures to reach an average of around 320 K (47 °C; 116 °F). The atmosphere will become a "moist greenhouse", resulting in a runaway evaporation of the oceans.[78][83] This would cause plate tectonics to stop completely, if not already stopped before this time.[84] Pockets of water may still be present at the poles, allowing abodes for simple life.[85][86]
	1.2 billion	High estimate until all plant life dies out, assuming some form of photosynthesis is possible despite extremely low carbon dioxide levels. If this is possible, rising temperatures will make any animal life unsustainable from this point on.[87][88][89]
	1.3 billion	Eukaryotic life dies out on Earth due to carbon dioxide starvation. Only prokaryotes remain.[81]
	1.5 billion	Callisto is captured into the mean–motion resonance of the other Galilean moons of Jupiter, completing the 1:2:4:8 chain. (Currently only Io, Europa, and Ganymede participate in the 1:2:4 resonance.)[90]
	1.5–1.6 billion	The Sun's rising luminosity causes its circumstellar habitable zone to move outwards; as carbon dioxide rises in Mars's atmosphere, its surface temperature rises to levels akin to Earth during the ice age.[81][91]
	1.5–4.5 billion	Tidal acceleration moves the Moon far enough from the Earth to the point where it can no longer stabilize Earth's axial tilt. As a consequence, Earth's true polar wander becomes chaotic and extreme, leading to dramatic shifts in the planet's climate due to the changing axial tilt.[92]
	1.6 billion	Lower estimate until all remaining life, which by now had been reduced to colonies of unicellular organisms in isolated microenvironments such as high-altitude lakes and caves, goes extinct.[78][81][93]
	< 2 billion	The first close passage of the Andromeda Galaxy and the Milky Way.[94]
	2 billion	High estimate until the Earth's oceans evaporate if the atmospheric pressure were to decrease via the nitrogen cycle.[95]
	2.55 billion	The Sun will have reached a maximum surface temperature of 5,820 K (5,550 °C; 10,020 °F). From then on, it will become gradually cooler while its luminosity will continue to increase.[83]
	2.8 billion	Earth's surface temperature will reach around 420 K (147 °C; 296 °F), even at the poles.[78][93]
	2.8 billion	High estimate until all remaining Earth life goes extinct.[78][93]
	3–4 billion	The Earth's core freezes if the inner core continues to grow in size, based on its current growth rate of 1 mm (0.039 in) in diameter per year.[96][97][98] Without its liquid outer core, Earth's magnetosphere shuts down,[99] and solar winds gradually deplete the atmosphere.[100]
	c. 3 billion[note 1]	There is a roughly 1-in-100,000 chance that the Earth will be ejected into interstellar space by a stellar encounter before this point, and a 1-in-300-billion chance that it will be both ejected into space and captured by another star around this point. If this were to happen, any remaining life on Earth could potentially survive for far longer if it survived the interstellar journey.[101]
	3.3 billion[note 1]	There is a roughly 1% chance that Jupiter's gravity may make Mercury's orbit so eccentric as to cross Venus's orbit by this time, sending the inner Solar System into chaos. Other possible scenarios include Mercury colliding with the Sun, being ejected from the Solar System, or colliding with Venus or Earth.[102][103]
	3.5–4.5 billion	The Sun's luminosity will have increased by 35–40%, causing all water currently present in lakes and oceans to evaporate, if it had not done so earlier. The greenhouse effect caused by the massive, water-rich atmosphere will result in Earth's surface temperature rising to 1,400 K (1,130 °C; 2,060 °F)—hot enough to melt some surface rock.[84][95][104][105]
	3.6 billion	Neptune's moon Triton falls through the planet's Roche limit, potentially disintegrating into a planetary ring system similar to Saturn's.[106]
	4.5 billion	Mars reaches the same solar flux the Earth did when it first formed, 4.5 billion years ago from today.[91]
	< 5 billion	The Andromeda Galaxy will have fully merged with the Milky Way, forming a galaxy dubbed "Milkomeda".[94] There is also a small chance of the Solar System being ejected.[94][107] The planets of the Solar System will almost certainly not be disturbed by these events.[108][109][110]
	5.4 billion	The sun, having now exhausted its hydrogen supply, leaves the main sequence and begins evolving into a red giant.[111]
	6.5 billion	Mars reaches the same solar radiation flux as Earth today, after which it will suffer a similar fate to the Earth as described above.[91]
	6.6 billion	The Sun may experience a helium flash, resulting in its core becoming as bright as the combined luminosity of all the stars in the Milky Way galaxy.[112]

★	7.5 billion	Earth and Mars may become tidally locked with the expanding red giant Sun.[91]
★	7.59 billion	The Earth and Moon are very likely destroyed by falling into the Sun, just before the Sun reaches the top of its red giant phase.[111][note 3] Before the final collision, the Moon possibly spirals below Earth's Roche limit, breaking into a ring of debris, most of which falls to the Earth's surface.[113] During this era, Saturn's moon Titan may reach surface temperatures necessary to support life.[114]
★	7.9 billion	The Sun reaches the top of the red-giant branch of the Hertzsprung–Russell diagram, achieving its maximum radius of 256 times the present-day value.[115] In the process, Mercury, Venus, and Earth are likely destroyed.[111]
★	8 billion	The Sun becomes a carbon–oxygen white dwarf with about 54.05% of its present mass.[111][116][117][118] At this point, if the Earth survives, temperatures on the surface of the planet, as well as the other planets in the Solar System, will begin dropping rapidly, due to the white dwarf Sun emitting much less energy than it does today.
★	22.3 billion	The estimated time until the end of the Universe in a Big Rip, assuming a model of dark energy with $w = -1.5$.[119][120] If the density of dark energy is less than −1, then the Universe's expansion will continue to accelerate and the Observable Universe will grow ever sparser. Around 200 million years before the Big Rip, galaxy clusters like the Local Group or the Sculptor Group would be destroyed. Sixty million years before the Big Rip, all galaxies will begin to lose stars around their edges and will completely disintegrate in another 40 million years. Three months before the Big Rip, star systems will become gravitationally unbound, and planets will fly off into the rapidly expanding universe. Thirty minutes before the Big Rip, planets, stars, asteroids and even extreme objects like neutron stars and black holes will evaporate into atoms. 100 zeptoseconds (10^{-19} seconds) before the Big Rip, atoms would break apart. Ultimately, once the Rip reaches the Planck scale, cosmic strings would be disintegrated as well as the fabric of spacetime itself. The universe would enter into a "rip singularity" when all non-zero distances become infinitely large. Whereas a "crunch singularity" involves all matter being infinitely concentrated, in a "rip singularity", all matter is infinitely spread out.[121] However, observations of galaxy cluster speeds by the Chandra X-ray Observatory suggest that the true value of w is c. −0.991, meaning the Big Rip is unlikely to occur.[122]
★	50 billion	If the Earth and Moon are not engulfed by the Sun, by this time they will become tidally locked, with each showing only one face to the other.[123][124] Thereafter, the tidal action of the white dwarf Sun will extract angular momentum from the system, causing the lunar orbit to decay and the Earth's spin to accelerate.[125]
★	65 billion	The Moon may collide with the Earth or be torn apart to form an orbital ring due to the decay of its orbit, assuming the Earth and Moon are not engulfed by the red giant Sun.[126]
★	100 billion–10^{12} (1 trillion)	All the c. 47 galaxies[127] of the Local Group will coalesce into a single large galaxy—an expanded "Milkomeda"/"Milkdromeda"; the last galaxies of the Local Group coalescing will mark the effective completion of its evolution.[9]
★	100–150 billion	The Universe's expansion causes all galaxies beyond the former Milky Way's former Local Group to disappear beyond the cosmic light horizon, removing them from the observable universe.[128][129]
★	150 billion	The universe will have expanded by a factor of 6,000, and the cosmic microwave background will have cooled by the same factor to around 4.5×10^{-4} K. The temperature of the background will continue to cool in proportion to the expansion of the universe.[129]
★	325 billion	The estimated time by which the expansion of the universe isolates all gravitationally bound structures within their own cosmological horizon. At this point, the universe has expanded by a factor of more than 100 million from today, and even individual exiled stars are isolated.[130]
★	800 billion	The expected time when the net light emission from the combined "Milkomeda" galaxy begins to decline as the red dwarf stars pass through their blue dwarf stage of peak luminosity.[131]
★	10^{12} (1 trillion)	A low estimate for the time until star formation ends in galaxies as galaxies are depleted of the gas clouds they need to form stars.[9] The Universe's expansion, assuming a constant dark energy density, multiplies the wavelength of the cosmic microwave background by 10^{29}, exceeding the scale of the cosmic light horizon and rendering its evidence of the Big Bang undetectable. However, it may still be possible to determine the expansion of the universe through the study of hypervelocity stars.[128]
★	1.05×10^{12} (1.05 trillion)	The estimated time by which the Universe will have expanded by a factor of more than 10^{26}, reducing the average particle density to less than one particle per cosmological horizon volume. Beyond this point, particles of unbound intergalactic matter are effectively isolated, and collisions between them cease to affect the future evolution of the Universe.[130]
★	1.4×10^{12} (1.4 trillion)	The estimated time by which the cosmic background radiation cools to a floor temperature of 10^{-30} K and does not decline further. This residual temperature comes from horizon radiation, which does not decline over time.[129]

★	2×10^{12} (2 trillion)	The estimated time by which all objects beyond our former Local Group are redshifted by a factor of more than 10^{53}. Even gamma rays that they emit are stretched so that their wavelengths are greater than the physical diameter of the horizon. The resolution time for such radiation will exceed the physical age of the universe.[132]
★	4×10^{12} (4 trillion)	The estimated time until the red dwarf star Proxima Centauri, the closest star to the Sun at a distance of 4.25 light-years, leaves the main sequence and becomes a white dwarf.[133]
★	10^{13} (10 trillion)	The estimated time of peak habitability in the universe, unless habitability around low-mass stars is suppressed.[134]
★	1.2×10^{13} (12 trillion)	The estimated time until the red dwarf VB 10, as of 2016 the least-massive main sequence star with an estimated mass of 0.075 $M_\odot$, runs out of hydrogen in its core and becomes a white dwarf.[135][136]
★	3×10^{13} (30 trillion)	The estimated time for stars (including the Sun) to undergo a close encounter with another star in local stellar neighborhoods. Whenever two stars (or stellar remnants) pass close to each other, their planets' orbits can be disrupted, potentially ejecting them from the system entirely. On average, the closer a planet's orbit to its parent star the longer it takes to be ejected in this manner, because it is gravitationally more tightly bound to the star.[137]
★	10^{14} (100 trillion)	A high estimate for the time by which normal star formation ends in galaxies.[9] This marks the transition from the Stelliferous Era to the Degenerate Era; with too little free hydrogen to form new stars, all remaining stars slowly exhaust their fuel and die.[138] By this time, the universe will have expanded by a factor of approximately 10^{2554}.[130]
★	$1.1–1.2\times10^{14}$ (110–120 trillion)	The time by which all stars in the universe will have exhausted their fuel (the longest-lived stars, low-mass red dwarfs, have lifespans of roughly 10–20 trillion years).[9] After this point, the stellar-mass objects remaining are stellar remnants (white dwarfs, neutron stars, black holes) and brown dwarfs. Collisions between brown dwarfs will create new red dwarfs on a marginal level: on average, about 100 stars will be shining in what was once the Milky Way. Collisions between stellar remnants will create occasional supernovae.[9]
★	10^{15} (1 quadrillion)	The estimated time until stellar close encounters detach all planets in star systems (including the Solar System) from their orbits.[9] By this point, the Sun will have cooled to 5 K (−268.15 °C; −450.67 °F).[139]
★	10^{19} to 10^{20} (10–100 quintillion)	The estimated time until 90–99% of brown dwarfs and stellar remnants (including the Sun) are ejected from galaxies. When two objects pass close enough to each other, they exchange orbital energy, with lower-mass objects tending to gain energy. Through repeated encounters, the lower-mass objects can gain enough energy in this manner to be ejected from their galaxy. This process eventually causes "Milkomeda"/"Milkdromeda" to eject the majority of its brown dwarfs and stellar remnants.[9][140]
★	10^{20} (100 quintillion)	The estimated time until the Earth collides with the black dwarf Sun due to the decay of its orbit via emission of gravitational radiation,[141] if the Earth is not ejected from its orbit by a stellar encounter or engulfed by the Sun during its red giant phase.[141]
★	10^{23} (100 sextillion)	Around this timescale most stellar remnants and other objects are ejected from the remains of their galactic cluster.[142]
★	10^{30} (1 nonillion)	The estimated time until most or all of the remaining 1–10% of stellar remnants not ejected from galaxies fall into their galaxies' central supermassive black holes. By this point, with binary stars having fallen into each other, and planets into their stars, via emission of gravitational radiation, only solitary objects (stellar remnants, brown dwarfs, ejected planetary-mass objects, black holes) will remain in the universe.[9]
Ψ	2×10^{36} (2 undecillion)	The estimated time for all nucleons in the observable universe to decay, if the hypothesized proton half-life takes its smallest possible value (8.2×10^{33} years).[143][144][note 4]
Ψ	$10^{36}–10^{38}$ (1–100 undecillion)	Estimated time for all remaining planets and stellar-mass objects, including the Sun, to disintegrate if proton decay can occur.[9]
Ψ	3×10^{43} (30 tredecillion)	Estimated time for all nucleons in the observable universe to decay, if the hypothesized proton half-life takes the largest possible value, 10^{41} years,[9] assuming that the Big Bang was inflationary and that the same process that made baryons predominate over anti-baryons in the early Universe makes protons decay.[144][note 4] By this time, if protons do decay, the Black Hole Era, in which black holes are the only remaining celestial objects, begins.[9][138]
Ψ	3.14×10^{50} (314 quindecillion)	The estimated time until a micro black hole of 1 Earth mass decays into subatomic particles by the emission of Hawking radiation.[145]
Ψ	10^{65} (100 vigintillion)	Assuming that protons do not decay, estimated time for rigid objects, from free-floating rocks in space to planets, to rearrange their atoms and molecules via quantum tunneling. On this timescale, any discrete body of matter "behaves like a liquid" and becomes a smooth sphere due to diffusion and gravity.[141]

Ψ	1.16×10^{67} (11.6 unvigintillion)	The estimated time until a black hole of 1 solar mass decays by Hawking radiation.[145]
Ψ	1.54×10^{91}–1.41×10^{92} (15.4–141 novemvigintillion)	The estimated time until the resulting supermassive black hole of "Milkomeda"/"Milkdromeda" from the merger of Sagittarius A* and the P2 concentration during the collision of the Milky Way and Andromeda galaxies[146] vanishes by Hawking radiation,[145] assuming it does not accrete any additional matter nor merge with other black holes—though it's most likely that this supermassive black hole will nonetheless merge with other supermassive black holes during the gravitational collapse towards Milkomeda"/"Milkdromeda of other Local Group galaxies.[147] This supermassive black hole might be the very last entity from the former Local Group to disappear—and the last evidence of its existence.
Ψ	10^{106} – 2.1×10^{109}	The estimated time until supermassive black holes of 10^{14} (100 trillion) solar masses, predicted to form during the gravitational collapse of galaxy superclusters,[148] decay by Hawking radiation.[145] This marks the end of the Black Hole Era. Beyond this time, if protons do decay, the Universe enters the Dark Era, in which all physical objects have decayed to subatomic particles, gradually winding down to their final energy state in the heat death of the universe.[9][138]
Ψ	10^{161}	A 2018 estimate of Standard Model lifetime before collapse of a false vacuum; 95% confidence interval is 10^{65} to 10^{1383} years due in part to uncertainty about the top quark's mass.[149][note 5]
Ψ	10^{200}	The highest estimate for the time it would take for all nucleons in the observable universe to decay, if they do not decay via the above process, but instead through any one of many different mechanisms allowed in modern particle physics (higher-order baryon non-conservation processes, virtual black holes, sphalerons, etc.) on time scales of 10^{46} to 10^{200} years.[138]
★	$10^{1100–32000}$	The estimated time for black dwarfs of 1.2 solar masses or more to undergo supernovae as a result of slow silicon–nickel–iron fusion, as the declining electron fraction lowers their Chandrasekhar limit, assuming protons do not decay.[150]
★	10^{1500}	Assuming protons do not decay, estimated time until all baryonic matter in stellar remnants, planets, and planetary-mass objects has either fused together via muon-catalyzed fusion to form iron-56 or decayed from a higher mass element into iron-56 to form iron stars.[141]
Ψ	[note 6][note 7]	A low estimate for the time until all iron stars collapse via quantum tunnelling into black holes, assuming no proton decay or virtual black holes, and that Planck-scale black holes can exist.[141] On this vast timescale, even ultra-stable iron stars will have been destroyed by quantum-tunnelling events. At this lower end of the timescale, iron stars decay directly to black holes, as this decay mode is much more favourable than decaying into a neutron star (which has an expected timescale of years),[141] and later decaying into a black hole. The subsequent evaporation of each resulting black hole into subatomic particles (a process lasting roughly 10^{100} years), and subsequent shift to the Dark Era is on these timescales instantaneous.
Ψ	[note 1][note 7][note 8]	The estimated time for a Boltzmann brain to appear in the vacuum via a spontaneous entropy decrease.[11]
Ψ	[note 7]	Highest estimate for the time until all iron stars collapse via quantum tunnelling into neutron stars or black holes, assuming no proton decay or virtual black holes, and that black holes below the Chandrasekhar mass cannot form directly.[141] On these timescales, neutron stars above the Chandrasekhar mass rapidly collapse into black holes, and black holes formed by these processes instantly evaporate into subatomic particles. This is also the highest estimated possible time for the Black Hole Era (and subsequent Dark Era) to commence. Beyond this point, it is almost certain that the universe will be an almost pure vacuum, with all baryonic matter having decayed into subatomic particles, until it reaches its final energy state, assuming it does not happen before this time.
Ψ	[note 7]	The highest estimate for the time it takes for the universe to reach its final energy state.[11]
Ψ	[note 1][note 7]	Around this vast timeframe, quantum tunnelling in any isolated patch of the universe could generate new inflationary events, resulting in new Big Bangs giving birth to new universes.[151] *(Because the total number of ways in which all the subatomic particles in the observable universe can be combined is ,[152][153] a number which, when multiplied by , disappears into the rounding error, this is also the time required for a quantum-tunnelled and quantum fluctuation-generated Big Bang to produce a new universe identical to our own, assuming that every new universe contained at least the same number of subatomic particles and obeyed laws of physics within the landscape predicted by string theory.)*[154][155]

Humanity and human constructs

To date five spacecraft (*Voyager 1*, *Voyager 2*, *Pioneer 10*, *Pioneer 11* and *New Horizons*) are on trajectories which will take them out of the Solar System and into interstellar space. Barring an extremely unlikely collision with some object, the craft should persist indefinitely.[156]

	Date or years from now	Event
★	1,000	The SNAP-10A nuclear satellite, launched in 1965 to an orbit 700 km (430 mi) above Earth, will return to the surface.[157][158]
👤	3183 CE	The *Time Pyramid*, a public art work started in 1993 at Wemding, Germany, is scheduled for completion.[159]
👤	2,000	Maximum lifespan of the data films in Arctic World Archive, a repository which contains code of open source projects on GitHub along with other data of historical interest, if stored in optimum conditions.[160]
Ψ	10,000	The Waste Isolation Pilot Plant, for nuclear weapons waste, is planned to be protected until this time, with a "Permanent Marker" system designed to warn off visitors through both multiple languages (the six UN languages and Navajo) and through pictograms.[161] The Human Interference Task Force has provided the theoretical basis for United States plans for future nuclear semiotics.[162]
👤	10,000	Planned lifespan of the Long Now Foundation's several ongoing projects, including a 10,000-year clock known as the Clock of the Long Now, the Rosetta Project, and the Long Bet Project.[163] Estimated lifespan of the HD-Rosetta analog disc, an ion beam-etched writing medium on nickel plate, a technology developed at Los Alamos National Laboratory and later commercialized. (The Rosetta Project uses this technology, named after the Rosetta Stone.)
🦋	10,000	Projected lifespan of Norway's Svalbard Global Seed Vault.[164]
👤	10,000	Most probable estimated lifespan of technological civilization, according to Frank Drake's original formulation of the Drake equation.[165]
🦋	10,000	If globalization trends lead to panmixia, human genetic variation will no longer be regionalized, as the effective population size will equal the actual population size.[166]
π	10,000	Humanity has a 95% probability of being extinct by this date, according to Brandon Carter's formulation of the controversial Doomsday argument, which argues that half of the humans who will ever have lived have probably already been born.[167]
👤	20,000	According to the glottochronology linguistic model of Morris Swadesh, future languages should retain just 1 out of 100 "core vocabulary" words on their Swadesh list compared to that of their current progenitors.[168]
Ψ	24,110	Half-life of plutonium-239.[169] At this point the Chernobyl Exclusion Zone, the 2,600-square-kilometre (1,000 sq mi) area of Ukraine and Belarus left deserted by the 1986 Chernobyl disaster, will return to normal levels of radiation.[170]
★	25,000	The Arecibo message, a collection of radio data transmitted on 16 November 1974, reaches the distance of its destination, the globular cluster Messier 13.[171] This is the only interstellar radio message sent to such a distant region of the galaxy. There will be a 24-light-year shift in the cluster's position in the galaxy during the time it takes the message to reach it, but as the cluster is 168 light-years in diameter, the message will still reach its destination.[172] Any reply will take at least another 25,000 years from the time of its transmission (assuming no faster-than-light communication).
👤	14 September 30,828 CE	Maximum system time for 64-bit NTFS-based Windows operating system.[173]
★	33,800	*Pioneer 10* passes within 3.4 light-years of Ross 248.[174]
★	42,200	*Voyager 2* passes within 1.7 light-years of Ross 248.[174]
★	44,100	*Voyager 1* passes within 1.8 light-years of Gliese 445.[174]
★	46,600	*Pioneer 11* passes within 1.9 light-years of Gliese 445.[174]
⚗	50,000	Estimated atmospheric lifetime of tetrafluoromethane, the most durable greenhouse gas.[175]
★	90,300	*Pioneer 10* passes within 0.76 light-years of HIP 117795.[174]
⚗	100,000+	Time required to terraform Mars with an oxygen-rich breathable atmosphere, using only plants with solar efficiency comparable to the biosphere currently found on Earth.[176]
👤	100,000 – 1 million	Estimated time by which humanity could colonize our Milky Way galaxy and become capable of harnessing all the energy of the galaxy, assuming a velocity of 10% the speed of light.[177]

Ψ	250,000	The estimated minimum time at which the spent plutonium stored at New Mexico's Waste Isolation Pilot Plant will cease to be radiologically lethal to humans.[178]
	13 September 275,760 CE	Maximum system time for the JavaScript programming language.[179]
★	492,300	*Voyager 1* passes within 1.3 light-years of HD 28343.[174]
	1 million	Estimated lifespan of Memory of Mankind (MOM) self-storage-style repository in Hallstatt salt mine in Austria, which stores information on inscribed tablets of stoneware.[180] Planned lifespan of the Human Document Project being developed at the University of Twente in the Netherlands.[181]
	1 million	Current glass objects in the environment will be decomposed.[182] Various public monuments composed of hard granite will have eroded one metre, in a moderate climate, assuming a rate of 1 Bubnoff unit (1 mm in 1,000 years, or ≈1 inch in 25,000 years).[183] Without maintenance, the Great Pyramid of Giza will erode into unrecognizability.[184] On the Moon, Neil Armstrong's "one small step" footprint at Tranquility Base will erode by this time, along with those left by all twelve Apollo moonwalkers, due to the accumulated effects of space weathering.[98][185] (Normal erosion processes active on Earth are not present due to the Moon's almost complete lack of atmosphere.)
★	1.2 million	*Pioneer 11* comes within 3 light-years of Delta Scuti.[174]
★	2 million	*Pioneer 10* passes near the bright star Aldebaran.[186]
	2 million	Vertebrate species separated for this long will generally undergo allopatric speciation.[187] Evolutionary biologist James W. Valentine predicted that if humanity has been dispersed among genetically isolated space colonies over this time, the galaxy will host an evolutionary radiation of multiple human species with a "diversity of form and adaptation that would astound us".[188] This would be a natural process of isolated populations, unrelated to potential deliberate genetic enhancement technologies.
★	4 million	*Pioneer 11* passes near one of the stars in the constellation Aquila.[186]
	7.2 million	Without maintenance, Mount Rushmore will erode into unrecognizability.[189]
π	7.8 million	Humanity has a 95% probability of being extinct by this date, according to J. Richard Gott's formulation of the controversial Doomsday argument.[190]
★	8 million	Most probable lifespan of Pioneer 10 plaque, before the etching is destroyed by poorly understood interstellar erosion processes.[191] The *LAGEOS* satellites' orbits will decay, and they will re-enter Earth's atmosphere, carrying with them a message to any far future descendants of humanity, and a map of the continents as they are expected to appear then.[192]
	100 million	Maximal estimated lifespan of technological civilization, according to Frank Drake's original formulation of the Drake equation.[193]
	100 million	Future archaeologists should be able to identify an "Urban Stratum" of fossilized great coastal cities, mostly through the remains of underground infrastructure such as building foundations and utility tunnels.[194]
	1 billion	Estimated lifespan of "Nanoshuttle memory device" using an iron nanoparticle moved as a molecular switch through a carbon nanotube, a technology developed at the University of California at Berkeley.[195]
★	1 billion	Estimated lifespan of the two Voyager Golden Records, before the information stored on them is rendered unrecoverable.[196] Estimated time for an astroengineering project to alter the Earth's orbit, compensating for the Sun's rising brightness and outward migration of the habitable zone, accomplished by repeated asteroid gravity assists.[197][198]
	292,277,026,596 CE (292 billion)	Numeric overflow in system time for 64-bit Unix systems.[199]
★	10^{20} (100 quintillion)	Estimated timescale for the Pioneer and Voyager spacecraft to collide with a star (or stellar remnant).[174]
	3×10^{19} – 3×10^{21} (30 quintillion – 3 sextillion)	Estimated lifespan of "Superman memory crystal" data storage using femtosecond laser-etched nanostructures in glass, a technology developed at the University of Southampton, at an ambient temperature of 30 °C (86 °F; 303 K).[200][201]

Graphical timelines

For graphical, logarithmic timelines of these events see:

- Graphical timeline of the universe (to 8 billion years from now)
- Graphical timeline of the Stelliferous Era (to 10^{20} years from now)
- Graphical timeline from Big Bang to Heat Death (to 10^{1000} years from now)

Yorum

Geçmiş bilinirken, veri bilimsel olmaz ise destanlaşır, anlamsız bir yaklaşıma yönelebilir.

Bazı kişiler toplumda etkinlik kurabilmek için, fal ve büyüye inanırlar. Oluşursa bilmiş olur, olmaz ise, bir oynama olmuştur, kendisinde hata olmaz der.
Bir örnek: Bir kongrede arkadaşım kahve falına bakmamı istedi. Ben fala inanmam, arkadaşlarım da bilirler. Başladım kızı İngiltere'de resitali başarılı geçecek, gelini de başarılı olacak diye konuşmaya başladım. Nerede görüyorsun dediler, bakın bu kahve lekesi söylüyor dedim. Bir arkadaş bayılacak gibi oldu, doğrusunu istedi. Akşam yemekte tüm sorunlarını dinledim, şimdi de moral vermek için söylüyorum dedim. Gelecek ile alakası yok, sadece moral verme yaklaşımı dedim. Fal olursa insanlar inanıyor diye ekledim.

List of predictions, Wikipedia[3]

There have been various notable predictions made throughout history, including those by scientists based on the scientific method, predictions of social and technological change of futurologists, economic forecasts, religious prophecies, and the fictional imaginings of authors and science fiction. Science fiction author Arthur C. Clarke wrote three laws of prediction.

Economic forecasting

- In 1987, Ravi Batra predicted an economic depression in his best-selling book, *The Great Depression of 1990*. He subsequently wrote other books on surviving economic upheaval.
- In 1996, economist Alan Greenspan famously stated that there was irrational exuberance in the stock market on Dec 5, 1996, and indeed, may well have contributed to it as a result of his policies as Chairman of the Federal Reserve. His warning went unheeded and the stock market continued to boom in the late 1990s until the stock market downturn of 2000 and 2001, when it became evident that the warning had been correct.
- The Great Recession of 2007, arguably the worst since the Great Depression of the 1930s, was not foreseen by most forecasters. The failure to forecast the "Great Recession " was coupled with the inability to accurately estimate its impact.[1]

Scientific prediction

- The existence of Neptune was predicted through mathematical modelling based on Sir Isaac Newton's Law of gravity.
- Radio waves were predicted by James Clerk Maxwell in 1867.
- The advent of a worldwide instantaneous communication system (the internet) was predicted by Nikola Tesla, who invented wireless communication.
- Albert Einstein predicted the deflection of starlight by the Sun's gravity, which was demonstrated by the Eddington experiment in 1919.
- Antimatter was predicted in 1928 by Paul Dirac on the basis of his formulation of relativistic quantum mechanics.
- The Higgs boson, an elementary particle, was predicted by Peter Higgs based on a theoretical model in 1964, and its existence was confirmed in 2012.
- Final anthropic principle - highly contentious prediction bordering on philosophy.

Political prediction

- Unipolarity was predicted by Johann Gottlieb Fichte on the basis of his analysis of the challenge of Napoleon and by K'ang Yu-wei on the basis of the macro-historical trend and global closure.
- In an article written in February 1945 titled "Das Jahr 2000"(The Year 2000) Joseph Goebbels made a series of political predictions about what Europe would look like in the year 2000. He predicted that Germany would be split in two, and separated by an "Iron Curtain". He predicted that Europe would be united, and that the British Empire would collapse and be replaced by the United States.

- In 1888, Otto von Bismarck accurately predicted World War I. "One day the Great European War will come out of some damn foolish thing in the Balkans."
- The Cold War was predicted by Alexis de Tocqueville on the basis of the expansion of Russia and America.
- World Wars were predicted by K'ang Yu-wei and George Vacher de Lapouge on the basis of the macro-historical trend and global closure.
- American unipolarity was predicted by George Vacher de Lapouge on the basis of combination of macro-historical trend, global closure and racial theory and by H. G. Wells on the basis of the development level.
- The dissolution of the USSR was predicted by Emmanuel Todd on the basis of economic and national factors.

Futurism

- "Flying Machines Which Do Not Fly" (1903): A *New York Times* editorial predicting it would take one to ten million years for humanity to develop an operating flying machine.
- Doomsday equation (1960): Heinz von Foerster extrapolated historical population data to predict an infinite human population for 2026.
- *Future Shock* (1970) by Alvin Toffler considered change moving too fast for humans to cope.
- *Engines of Creation* (1986) by K. Eric Drexler which involves molecular nanotechnology changing the world, and introduces the grey goo scenario.
- *The End of History and the Last Man* (1992, by Francis Fukuyama) heralded the arrival of the "end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government." Its thesis has since been disavowed by its author.
- *The Clash of Civilizations* by Samuel P. Huntington, published in *Foreign Affairs*, Volume 72, Number 3, Summer 1993 and later expanded into a book, states "the fundamental source of conflict in this new world will not be primarily ideological or primarily economic. The great divisions among humankind and the dominating source of conflict will be cultural. Nation states will remain the most powerful actors in world affairs, but the principal conflicts of global politics will occur between nations and groups of different civilizations. The clash of civilizations will dominate global politics. The fault lines between civilizations will be the battle lines of the future."
- *The Coming Technological Singularity* (1993, by Vernor Vinge) - a prediction of imminent acceleration of progress caused by increasing speed of computers and developments in AI.
- Ray Kurzweil is concerned with the idea of the singularity and many more optimistic technological and transhumanist predictions.
- "Why the future doesn't need us" (April 2000) - an essay warning about the dangers of robotics, genetic engineering, and nanotechnology to humanity. The essay has achieved wide exposure because of Bill Joy's prominence.
- Arthur C. Clarke:

No one can see into the future. What I try to do is outline possible "futures" - although totally expected inventions or events can render predictions absurd after only a few years. The classic example is the statement, made in the late 1940s, by the then-chairman of IBM that the world market for computers was five. I have more than that in my own office.
Perhaps I am in no position to criticise: in 1971 I predicted the first Mars Landing in 1994; now we'll be lucky if we make it by 2010. On the other hand, I thought I was being wildly optimistic in 1951 by suggesting a mission to the moon in 1978. Neil Armstrong and Buzz Aldrin beat me by almost a decade.
Still, I take pride in the fact that communications satellites are placed exactly where I suggested in 1945, and the name "Clarke Orbit" is often used (if only because it's easier to say than "geostationary orbit").
Some of the event listed here, particularly the space missions, are already scheduled. I believe all the other events could happen, although several, I hope, will not. Check me for accuracy - on December 31, 2000.
—[2] *Visions of the World to Come*[3] *(November 2001, by Arthur C. Clarke) - Clarke presents a speculative timeline of the 21st century.*

- *Tomorrow Now: Imagining the Next 50 Years* by Bruce Sterling in 2002. A popular science approach on futurology, reflecting technology, politics and culture of the next 50 years.
- *Our Final Hour* by Martin Rees in 2003. The book presents the notion that the Earth and human survival are in far greater danger from the potential effects of modern technology than is commonly realised;

hence the 21st century may be a critical moment in history when humanity's fate is decided. Rees gained controversy, and notoriety, by estimating that the probability of extinction before AD 2100 is around 50%. This is based on the possibility of malign or accidental release of destructive technology and has gained some attention, as he is a well-regarded astronomer.

- *Dark Age Ahead* by Jane Jacobs in 2004. As it implies the book warns of a pessimistic future, in this case caused by a decay in science, community, and education.

Religious prophecy

- Apocalyptic literature
- Bahá'í prophecies
- Bible prophecy
- Christian messianic prophecies
- Destiny
- Divination
- False prophet
- List of dates predicted for apocalyptic events
- List of messiah claimants
- List of people claimed to be Jesus
- List of prophecies of Joseph Smith
- Postdiction
- Predictions and claims for the Second Coming of Christ
- Prophecy
- Teleology
- Unfulfilled Christian religious predictions
- Unfulfilled Watch Tower Society predictions

Utopias and dystopias

- Marquis de Condorcet published his utopian vision of social progress and the perfectibility of man *Esquisse d'un Tableau Historique des Progres de l'Espirit Humain* (*The Future Progress of the Human Mind*) in 1794
- William Godwin published his utopian work *Enquiry concerning Political Justice* in 1793, with later editions in 1796 and 1798.
- *An Essay on the Principle of Population* by Thomas Malthus in 1798 started the fears of a Malthusian catastrophe where overpopulation returns people to mere subsistence.
- *Looking Backward: 2000-1887* was written by Edward Bellamy in 1888. The novel imagined that by 2000, the United States would be a socialist utopia, with far shorter work weeks for menial laborers and far greater leisure time for all workers. His novel predicted things such as skyscrapers, debit cards, and a device used to hear and view concerts in the home that resembles a modern television.
- *The Population Bomb* by Paul R. Ehrlich in 1968 predicted disasters due to Neo-Malthusian concerns.
- *The Limits to Growth* (1972, by Club of Rome) was often erroneously accused of predicting the inevitable exhaustion of natural resources.

Science fiction

- Apocalyptic and post-apocalyptic science fiction - comprehensive listing of humanity's worst fears
- Utopian and dystopian fiction
- Future history - list of common backgrounds created by science-fiction authors for their stories
- *Brave New World* by Aldous Huxley in 1932 imagined a rigid, yet superficially "happy", dystopia that controls people through a mixture of mind control and biotechnology
- *Nineteen Eighty-Four* (1949, by George Orwell) - a dystopian book set in Oceania, a totalitarian state that emerged in the Americas and the British Empire. The book extrapolates the reality of contemporary Stalinist Russia and Nazi Germany. The main protagonist is Winston Smith, whose job involves supporting the historical revisionism and propaganda of the political regime. Many original concepts from the book, such as doublethink, thought crime, and newspeak have since entered popular consciousness.
- *Foundation* series by Isaac Asimov. The new science of psychohistory can simulate history and extrapolate the present into the future.

- The author H.G. Wells wrote several works predicting future scientific advances and often exploring the problems that technology causes humanity. He was especially adept at predicting the future role of airplanes in warfare. His 1901 book, *Anticipations* imagined trains, cars, sexual freedom, and eugenics. In *The World Set Free*, published in 1914, he eerily predicted the creation of the atom bomb. His 1933 work, *Shape of Things to Come*, foresaw the extensive use of aerial bombardment in warfare. This was later adapted into the widely seen and critically important Alexander Korda science fiction film *Things to Come*.
- *Paris in the Twentieth Century* is a science fiction novel by Jules Verne written in 1863 that features detailed descriptions of a world of glass skyscrapers, high-speed trains, automobiles, calculators, and a worldwide communications network. It was not published in Verne's lifetime, and was only discovered by his great-grandson in 1989. It was published in 1994.
- *Make Room! Make Room!* - novel by Harry Harrison that predicted overpopulation in 1999 resulted in an unsuspecting population being sustained through cannibalism. Made into the movie *Soylent Green*.
- *Logan's Run* is a novel by William F. Nolan and George Clayton Johnson, published in 1967 and describing a dystopian future society in which the population is kept young by euthanizing everyone who reaches a certain age. This neatly avoids the problem of overpopulation.
- *Stand on Zanzibar* - John Brunner's 1968 vision of overpopulation in 2010
- *Z.P.G.* - 1972 film featuring an overpopulated, very polluted future Earth, whose world government practices Zero Population Growth, executing persons who violate the 30-year ban on procreation[4]
- *The Twentieth Century* (1882, by Albert Robida) - a book by a French author set in 1952 Paris, with a plethora of illustrations

Yorum

Gelecek konusunda tahmin yapılabilir ama bunu inanca bağlamak bir haksızlık ve kendilerini tanrı yapmak oluyor.

- Ekonomik gelecek, daima olumlu söyleyen ile tam tersini söyleyenler olur. Hangisi çıkar derseniz, ikisinden de bir kısmı oluşur, bunu alarak ben bildim derler. Sonra bunu politika ile oya çevirmek isterler.
- Bilimsel verilerin abartılması olur, telefon dalgalarının sanki kanser yaptığı gibi yapılan iddialar tamamen istatistik değil, olgu bazlıdır. Doğru değil, yaşlanma ile kanser artmaktadır.
- Politikada: Bir toplumda 5 gruba ayrılabilir. Hepsi %20 oy kapasiteli olduğu ifade edilir. Yüzde yirmi iktidar, yüzde 20 iktidar yanlısı olursa, %40 ile iktidarda kalırlar. %20 muhalefet olup, geri kalan %20 toplam uç gruplarda olanlardır. %20 karasız olup, bunlar oy atmaya giderse, ekseriyet sisteminde iktidarları değiştirebilirler. Bürokrasi hâkim olan Batı ülkelerinde seçime gitmemektedirler, değişen bir boyut olmayacaktır. Burada reklam ile oy kayması az iken, yapılan hizmet ve değerlendirme daha etkin olmaktadır. Bir genel anket gibi olmakta, buna göre değişim olacağı akla gelmelidir.
- Gelecek konusunda iler sürülen boyutlar, bunların başarılı ve gerçek olduğu net ve tam görülmemiştir.
- Din üzerine yorum yapanlar: kendilerini tanrı gibi ele almaktadırlar. Kuran 44 yerde Tanrı yok, 7 yerde de ilah yok der, yaratılış vardır, bilim üzere bakılmalıdır. La ilah=İlah yoktur derken, illa Allah=Allah var, illa Allah derken, Allahtan başka tanrı yok derseniz, tam tersini oluşturursunuz. Tarikat ve gruplar Kuran ve kitaplar dışı yaklaşımlarla bir nevi sonradan oluşanlara dayanmaktadırlar.
- Hayali gelecek öngörüleri: Masal ve rüya gibi yaklaşımlar bireye göre farklıdır, inandırıcılığı, kendilerini tanrı yapanlarda daha sık rastlanır.

Bir gerçek vardır, gelecekte öleceğiz, bu açıdan söylenenler bir varsayım, hayali ve bir işaret gibi unsurlara dayananlardır. Eğer 4 yapraklı yonca bulursanız, Yaratan size Cennetlik olduğunuzu müjdelemektedir denir, Kiliselerde yonca tohumları satılır. Biri tanrı, biri peygamber ve diğeri Cebrail ve sonuncu da kişidir. Ölüm anında hacı 4 boyutu ile tamamlara Cennetlik demektir. Günahı nasıl olsa Papazlar devir alır ve affederler, biraz paraya mal olur ama, ferahlar ve kurtulurlar. Nasıl olur, birey affetmeden, tazminat bireye ödenmeden nasıl olur diye sormayın, bir müessese gelir kaynağını bulmuştur.

Global Katastrofik risk

Bir tehdit ve Dünya sonu boyutları yaratılarak, bir felaket senaryosu yaratılır.
Deprem, sel ve benzeri felaketler abartılarak sunulur.
Bunun nedeni de insanların kötü kişi olmaları ve bir ders için olduğudur. Gerçekle alakası olmadığı da belirgindir. Sanki korkutunca tavır ve davranışları değiştirirler, daha zalim olurlar.

End of civilization, Wikipedia[4]

A **global catastrophic risk** or a **doomsday scenario** is a hypothetical future event that could damage human well-being on a global scale,[2] even endangering or destroying modern civilization.[3] An event that could cause human extinction or permanently and drastically curtail humanity's existence or potential is known as an "**existential risk**."[4]

Over the last two decades, a number of academic and non-profit organizations have been established to research global catastrophic and existential risks, formulate potential mitigation measures and either advocate for or implement these measures.[5][6][7][8]

Definition and classification

Defining global catastrophic risks

The term global catastrophic risk "lacks a sharp definition", and generally refers (loosely) to a risk that could inflict "serious damage to human well-being on a global scale".[10]

Humanity has suffered large catastrophes before. Some of these have caused serious damage but were only local in scope—e.g. the Black Death may have resulted in the deaths of a third of Europe's population,[11] 10% of the global population at the time.[12] Some were global, but were not as severe—e.g. the 1918 influenza pandemic killed an estimated 3–6% of the world's population.[13] Most global catastrophic risks would not be so intense as to kill the majority of life on earth, but even if one did, the ecosystem and humanity would eventually recover (in contrast to *existential risks*).

Similarly, in *Catastrophe: Risk and Response*, Richard Posner singles out and groups together events that bring about "utter overthrow or ruin" on a global, rather than a "local or regional", scale. Posner highlights such events as worthy of special attention on cost–benefit grounds because they could directly or indirectly jeopardize the survival of the human race as a whole.[14]

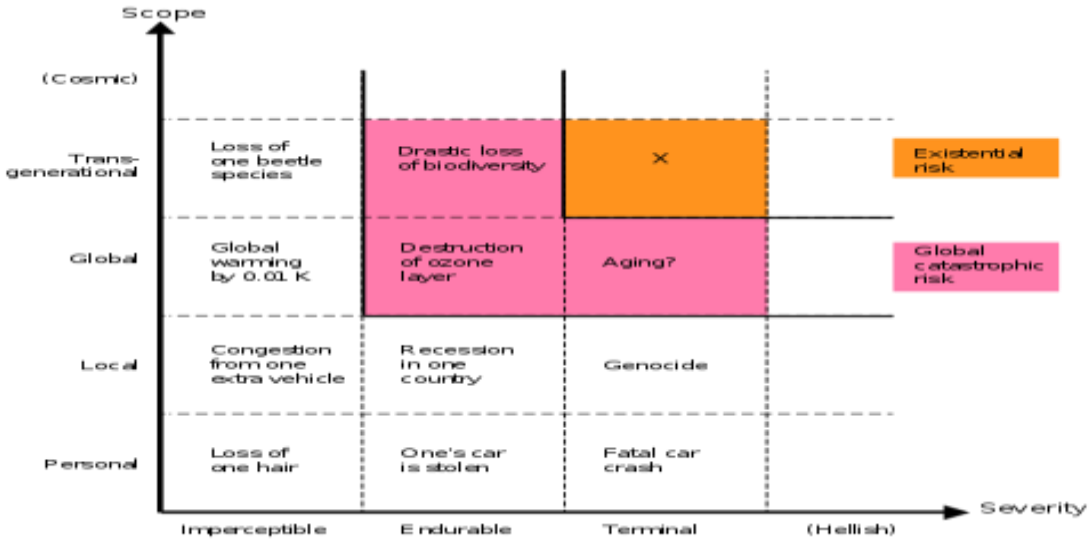
Defining existential risks

Existential risks are defined as "risks that threaten the destruction of humanity's long-term potential."[15] The instantiation of an existential risk (an *existential catastrophe*[16]) would either cause outright human extinction or irreversibly lock in a drastically inferior state of affairs.[9][17] Existential risks are a sub-class of global catastrophic risks, where the damage is not only *global* but also *terminal* and *permanent*, preventing recovery and thereby affecting both current and all future generations.[9]

Non-extinction risks

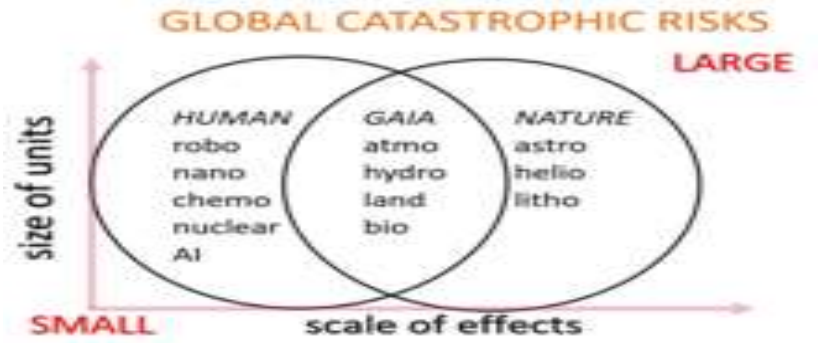
While extinction is the most obvious way in which humanity's long-term potential could be destroyed, there are others, including *unrecoverable collapse* and *unrecoverable dystopia*.[18] A disaster severe enough to cause the permanent, irreversible collapse of human civilisation would constitute an existential catastrophe, even if it fell short of extinction.[18] Similarly, if humanity fell under a totalitarian regime, and there were no chance of recovery then such a dystopia would also be an existential catastrophe.[19] Bryan Caplan writes that "perhaps an eternity of totalitarianism would be worse than extinction".[19] (George Orwell's novel *Nineteen Eighty-Four* suggests[20] an example.[21]) A dystopian scenario shares the key features of extinction and unrecoverable collapse of civilisation—before the catastrophe, humanity faced a vast range of bright futures to choose from; after the catastrophe, humanity is locked forever in a terrible state.[18]

Potential sources of risk



Scope–severity grid from Bostrom's paper "Existential Risk Prevention as Global Priority"[9]

Potential global catastrophic risks are conventionally classified as anthropogenic or non-anthropogenic hazards. Examples of non-anthropogenic risks are an asteroid or comet impact event, a supervolcanic eruption, a natural pandemic, a lethal gamma-ray burst, a geomagnetic storm from a coronal mass ejection destroying electronic equipment, natural long-term climate change, hostile extraterrestrial life, or the Sun transforming into a red giant star and engulfing the Earth billions of years in the future.



Arrangement of global catastrophic risks into three sets according to whether they are largely human-caused, human influences upon nature, or purely natural

Anthropogenic risks are those caused by humans and include those related to technology, governance, and climate change. Technological risks include the creation of artificial intelligence misaligned with human goals, biotechnology, and nanotechnology. Insufficient or malign global governance creates risks in the social and political domain, such as global war and nuclear holocaust, biological warfare and bioterrorism using genetically modified organisms, cyberwarfare and cyberterrorism destroying critical infrastructure like the electrical grid, or radiological warfare using weapons such as large cobalt bombs. Global catastrophic risks in the domain of earth system governance include global warming, environmental degradation, extinction of species, famine as a result of non-equitable resource distribution, human overpopulation, crop failures, and non-sustainable agriculture.

Methodological challenges

Research into the nature and mitigation of global catastrophic risks and existential risks is subject to a unique set of challenges and, as a result, is not easily subjected to the usual standards of scientific rigour.[18] For instance, it is neither feasible nor ethical to study these risks experimentally. Carl Sagan expressed this with regards to nuclear war: "Understanding the long-term consequences of nuclear war is not a problem amenable to experimental verification".[22] Moreover, many catastrophic risks change rapidly as technology advances and background

conditions, such as geopolitical conditions, change. Another challenge is the general difficulty of accurately predicting the future over long timescales, especially for anthropogenic risks which depend on complex human political, economic and social systems.[18] In addition to known and tangible risks, unforeseeable black swan extinction events may occur, presenting an additional methodological problem.[18][23]

Lack of historical precedent

Humanity has never suffered an existential catastrophe and if one were to occur, it would necessarily be unprecedented.[18] Therefore, existential risks pose unique challenges to prediction, even more than other long-term events, because of observation selection effects.[24] Unlike with most events, the failure of a complete extinction event to occur in the past is not evidence against their likelihood in the future, because every world that has experienced such an extinction event has no observers, so regardless of their frequency, no civilization observes existential risks in its history.[24] These anthropic issues may partly be avoided by looking at evidence that does not have such selection effects, such as asteroid impact craters on the Moon, or directly evaluating the likely impact of new technology.[9]

To understand the dynamics of an unprecedented, unrecoverable global civilizational collapse (a type of existential risk), it may be instructive to study the various local civilizational collapses that have occurred throughout human history.[25] For instance, civilizations such as the Roman Empire have ended in a loss of centralized governance and a major civilization-wide loss of infrastructure and advanced technology. However, these examples demonstrate that societies appear to be fairly resilient to catastrophe; for example, Medieval Europe survived the Black Death without suffering anything resembling a civilization collapse despite losing 25 to 50 percent of its population.[26]

Incentives and coordination

There are economic reasons that can explain why so little effort is going into existential risk reduction. It is a global public good, so we should expect it to be undersupplied by markets.[9] Even if a large nation invests in risk mitigation measures, that nation will enjoy only a small fraction of the benefit of doing so. Furthermore, existential risk reduction is an *intergenerational* global public good, since most of the benefits of existential risk reduction would be enjoyed by future generations, and though these future people would in theory perhaps be willing to pay substantial sums for existential risk reduction, no mechanism for such a transaction exists.[9]

Cognitive biases

Numerous cognitive biases can influence people's judgment of the importance of existential risks, including scope insensitivity, hyperbolic discounting, availability heuristic, the conjunction fallacy, the affect heuristic, and the overconfidence effect.[27]

Scope insensitivity influences how bad people consider the extinction of the human race to be. For example, when people are motivated to donate money to altruistic causes, the quantity they are willing to give does not increase linearly with the magnitude of the issue: people are roughly as willing to prevent the deaths of 200,000 or 2,000 birds.[28] Similarly, people are often more concerned about threats to individuals than to larger groups.[27]

Eliezer Yudkowsky theorizes that scope neglect plays a role in public perception of existential risks:[29][30]

Substantially larger numbers, such as 500 million deaths, and especially qualitatively different scenarios such as the extinction of the entire human species, seem to trigger a different mode of thinking... People who would never dream of hurting a child hear of existential risk, and say, "Well, maybe the human species doesn't really deserve to survive".

All past predictions of human extinction have proven to be false. To some, this makes future warnings seem less credible. Nick Bostrom argues that the absence of human extinction in the past is weak evidence that there will be no human extinction in the future, due to survivor bias and other anthropic effects.[31]

Sociobiologist E. O. Wilson argued that: "The reason for this myopic fog, evolutionary biologists contend, is that it was actually advantageous during all but the last few millennia of the two million years of existence of the genus Homo... A premium was placed on close attention to the near future and early reproduction, and little else. Disasters of a magnitude that occur only once every few centuries were forgotten or transmuted into myth."[32]

Proposed mitigation

Multi-layer defense

Defense in depth is a useful framework for categorizing risk mitigation measures into three layers of defense:[33]

1. *Prevention*: Reducing the probability of a catastrophe occurring in the first place. Example: Measures to prevent outbreaks of new highly infectious diseases.
2. *Response*: Preventing the scaling of a catastrophe to the global level. Example: Measures to prevent escalation of a small-scale nuclear exchange into an all-out nuclear war.

3. *Resilience*: Increasing humanity's resilience (against extinction) when faced with global catastrophes. Example: Measures to increase food security during a nuclear winter.

Human extinction is most likely when all three defenses are weak, that is, "by risks we are unlikely to prevent, unlikely to successfully respond to, and unlikely to be resilient against".[33]

The unprecedented nature of existential risks poses a special challenge in designing risk mitigation measures since humanity will not be able to learn from a track record of previous events.[18]

Funding

Some researchers argue that both research and other initiatives relating to existential risk are underfunded. Nick Bostrom states that more research has been done on *Star Trek*, snowboarding, or dung beetles than on existential risks. Bostrom's comparisons have been criticized as "high-handed".[34][35] As of 2020, the Biological Weapons Convention organization had an annual budget of US$1.4 million.[36]

Survival planning

Some scholars propose the establishment on Earth of one or more self-sufficient, remote, permanently occupied settlements specifically created for the purpose of surviving a global disaster.[37][38][39] Economist Robin Hanson argues that a refuge permanently housing as few as 100 people would significantly improve the chances of human survival during a range of global catastrophes.[37][40]

Food storage has been proposed globally, but the monetary cost would be high. Furthermore, it would likely contribute to the current millions of deaths per year due to malnutrition.[41] In 2022, a team led by David Denkenberger modeled the cost-effectiveness of resilient foods to artificial general intelligence (AGI) safety and found "~98-99% confidence" for a higher marginal impact of work on resilient foods.[42] Some survivalists stock survival retreats with multiple-year food supplies.

The Svalbard Global Seed Vault is buried 400 feet (120 m) inside a mountain on an island in the Arctic. It is designed to hold 2.5 billion seeds from more than 100 countries as a precaution to preserve the world's crops. The surrounding rock is −6 °C (21 °F) (as of 2015) but the vault is kept at −18 °C (0 °F) by refrigerators powered by locally sourced coal.[43][44]

More speculatively, if society continues to function and if the biosphere remains habitable, calorie needs for the present human population might in theory be met during an extended absence of sunlight, given sufficient advance planning. Conjectured solutions include growing mushrooms on the dead plant biomass left in the wake of the catastrophe, converting cellulose to sugar, or feeding natural gas to methane-digesting bacteria.[45][46]

Global catastrophic risks and global governance

Insufficient global governance creates risks in the social and political domain, but the governance mechanisms develop more slowly than technological and social change. There are concerns from governments, the private sector, as well as the general public about the lack of governance mechanisms to efficiently deal with risks, negotiate and adjudicate between diverse and conflicting interests. This is further underlined by an understanding of the interconnectedness of global systemic risks.[47] In absence or anticipation of global governance, national governments can act individually to better understand, mitigate and prepare for global catastrophes.[48]

Climate emergency plans

In 2018, the Club of Rome called for greater climate change action and published its Climate Emergency Plan, which proposes ten action points to limit global average temperature increase to 1.5 degrees Celsius.[49] Further, in 2019, the Club published the more comprehensive Planetary Emergency Plan.[50]

There is evidence to suggest that collectively engaging with the emotional experiences that emerge during contemplating the vulnerability of the human species within the context of climate change allows for these experiences to be adaptive. When collective engaging with and processing emotional experiences is supportive, this can lead to growth in resilience, psychological flexibility, tolerance of emotional experiences, and community engagement.[51]

Space colonization

Space colonization is a proposed alternative to improve the odds of surviving an extinction scenario.[52] Solutions of this scope may require megascale engineering.

Astrophysicist Stephen Hawking advocated colonizing other planets within the Solar System once technology progresses sufficiently, in order to improve the chance of human survival from planet-wide events such as global thermonuclear war.[53][54]

Billionaire Elon Musk writes that humanity must become a multiplanetary species in order to avoid extinction.[55] Musk is using his company SpaceX to develop technology he hopes will be used in the colonization of Mars.

Moving the Earth

In a few billion years, the Sun will expand into a red giant, swallowing the Earth. This can be avoided by moving the Earth farther out from the Sun, keeping the temperature roughly constant. That can be accomplished by tweaking the orbits of comets and asteroids so they pass close to the Earth in such a way that they add energy to the Earth's orbit.[56] Since the Sun's expansion is slow, roughly one such encounter every 6,000 years would suffice.[*citation needed*]

Skeptics and opponents

Psychologist Steven Pinker has called existential risk a "useless category" that can distract from real threats such as climate change and nuclear war.[34]

Organizations

The Bulletin of the Atomic Scientists (est. 1945) is one of the oldest global risk organizations, founded after the public became alarmed by the potential of atomic warfare in the aftermath of WWII. It studies risks associated with nuclear war and energy and famously maintains the Doomsday Clock established in 1947. The Foresight Institute (est. 1986) examines the risks of nanotechnology and its benefits. It was one of the earliest organizations to study the unintended consequences of otherwise harmless technology gone haywire at a global scale. It was founded by K. Eric Drexler who postulated "grey goo".[57][58]

Beginning after 2000, a growing number of scientists, philosophers and tech billionaires created organizations devoted to studying global risks both inside and outside of academia.[59]

Independent non-governmental organizations (NGOs) include the Machine Intelligence Research Institute (est. 2000), which aims to reduce the risk of a catastrophe caused by artificial intelligence,[60] with donors including Peter Thiel and Jed McCaleb.[61] The Nuclear Threat Initiative (est. 2001) seeks to reduce global threats from nuclear, biological and chemical threats, and containment of damage after an event.[8] It maintains a nuclear material security index.[62] The Lifeboat Foundation (est. 2009) funds research into preventing a technological catastrophe.[63] Most of the research money funds projects at universities.[64] The Global Catastrophic Risk Institute (est. 2011) is a US-based non-profit, non-partisan think tank founded by Seth Baum and Tony Barrett. GCRI does research and policy work across various risks, including artificial intelligence, nuclear war, climate change, and asteroid impacts.[65] The Global Challenges Foundation (est. 2012), based in Stockholm and founded by Laszlo Szombatfalvy, releases a yearly report on the state of global risks.[66][67] The Future of Life Institute (est. 2014) works to reduce extreme, large-scale risks from transformative technologies, as well as steer the development and use of these technologies to benefit all life, through grantmaking, policy advocacy in the United States, European Union and United Nations, and educational outreach.[7] Elon Musk, Vitalik Buterin and Jaan Tallinn are some of its biggest donors.[68] The Center on Long-Term Risk (est. 2016), formerly known as the Foundational Research Institute, is a British organization focused on reducing risks of astronomical suffering (s-risks) from emerging technologies.[69]

University-based organizations include the Future of Humanity Institute (est. 2005) which researches the questions of humanity's long-term future, particularly existential risk.[5] It was founded by Nick Bostrom and is based at Oxford University.[5] The Centre for the Study of Existential Risk (est. 2012) is a Cambridge University-based organization which studies four major technological risks: artificial intelligence, biotechnology, global warming and warfare.[6] All are man-made risks, as Huw Price explained to the AFP news agency, "It seems a reasonable prediction that some time in this or the next century intelligence will escape from the constraints of biology". He added that when this happens "we're no longer the smartest things around," and will risk being at the mercy of "machines that are not malicious, but machines whose interests don't include us."[70] Stephen Hawking was an acting adviser. The Millennium Alliance for Humanity and the Biosphere is a Stanford University-based organization focusing on many issues related to global catastrophe by bringing together members of academia in the humanities.[71][72] It was founded by Paul Ehrlich, among others.[73] Stanford University also has the Center for International Security and Cooperation focusing on political cooperation to reduce global catastrophic risk.[74] The Center for Security and Emerging Technology was established in January 2019 at Georgetown's Walsh School of Foreign Service and will focus on policy research of emerging technologies with an initial emphasis on artificial intelligence.[75] They received a grant of 55M USD from Good Ventures as suggested by Open Philanthropy.[75]

Other risk assessment groups are based in or are part of governmental organizations. The World Health Organization (WHO) includes a division called the Global Alert and Response (GAR) which monitors and responds to global epidemic crisis.[76] GAR helps member states with training and coordination of response to epidemics.[77] The United States Agency for International Development (USAID) has its Emerging Pandemic Threats Program which aims to prevent and contain naturally generated pandemics at their

source.[78] The Lawrence Livermore National Laboratory has a division called the Global Security Principal Directorate which researches on behalf of the government issues such as bio-security and counter-terrorism.[79]

Yorum

Dünyanın sonu ne olacak?
Ben kendi sonunun nasıl olacağına bak derim.
Sevgi ve insanlıkta olmazsan, yardım ve desek eyleminde değilsen, ne olacak?
Adın mezar taşında kalır, zamanla aşınır. Sevgi boyutu bırakmışsan, çoğalarak devam eder.

Gelecek Tahmini

Şimdiki boyuta bakarak gelecek tahmini daha önemli olacaktır. Bu yıllar sonrası olmalı asırlara uzanılmamalıdır. Daha önceki durumlar da örnek olmalıdır.
Dünya ısındı, ısınmaya devam edecek, soğuk dönemin gelmesine binlerce yıl var.
Buharlaşma artacak, bir soğuk ile karşılaşınca yağmur değil, kova ile su akar gibi olacaktır. Bu suyun toprak altın değil, toprağı yıkaması, erozyona sebep olacaktır. Bu tür yağışları korumalı ve sonra bunlardan sulama yolu ile faydalanmalıdır.
Küçük 5 ton kapasiteli, evlerde çatıdan akan suyu depolayacak plastikten havuzlar yapılmalı. Yazar olarak yaptım, başarılı oldu, ama plastik hatalı seçim oldu, su kaçırmakta idi. Kaliforniya'da her evin havuzu olduğu ve yangında buradan yararlandığı dikkate alındığında, bizde de bahçe ve diğer kaynaklar için kullanılması gündeme gelmelidir.
Belirli alanlar su toplama yeri olabilir, araba park edilir, yağmur zamanı da su toplanır. Örnekleri vardır.
Atık sular geri kazandırılmalı, bahçe sulama ve diğer işlerde kullanılmalıdır. Denize dökülmesi sorunu arttırmaktadır.

Kısaca daha sıcak olacak, göç etmek istemiyorsak, yağışları korumalı, toprağın altına girmesini sağlamalıyız. Gelecek senaryosu, eskiden Sahra Bölgesi mümbit iken, havanın ısınmalı ile çölleşmiş, bu tarihsel senaryonun modern versiyonunu yapmak, geleceği bilmek olmaz mı?

Sonuç

Gelecek elbet bilinmez. Ama bir plan içinde yaklaşırsak, buna göre hedefe ulaşılabilir. Örneğin bir şey satın almak istiyorsunuz, bunun bir fiyatını alt ve üst değerler olarak saptanmalı, ederi, değeri boyutu da zamanımızda internet kanalı ile sorgulamaktayız. Buna göre kalitesine göre yaklaşım yapılabilir.

Somut işlerde hesap, kontrol olası iken, soyut kavramlarda da bunu yapabilmek olanaklı görülmemektedir.
Yazar olarak, sevgi ve insanlıkta mıdır, oluşan boyut paylaşım temelinde mutluluk boyutunda mıdır? Bunların hepsi olmasa bile, sevgi olması yeterli olabilir.
Kar, kazanç temelde olayı objektif somuta taşır, burada soyut kavramlar ileri düzeyde bir insanlık boyutunda ise olumlu olunabilir.
Örnek, her ay fırına verilen askıda ekmek parasıdır. Ayda 100 ekmek parası verirseniz, acaba yerine ulaşır mı? Gözlenen 100 adet siz ödüyorsunuz, en az 100 fırıncı da vermektedir. İnsanlar sadece ekmek ile doyuyorlarsa bir değil, en az iki ekmek alırlar, bu ücret de fırıncıya kalmaktadır.

Bir ağaç dikerseniz, onun çıkardığı oksijen, gölge ve diğer faydalanılan boyutu size, var olduğu sürece şefaat eder, siz şükranlar sunar. Bu mahşere kadar süreceği ifade edilmektedir. Bu ağaçtan nesillerin oluşması da olayı katlayacaktır. Bu açıdan iyilik, eser ve değer üretenlerin bir nesil değil, uzun süreli bir kazançları olacaktır.

Kaynaklar

1) Prediction, Wikipedia
2) Timeline of the far future, Wikipedia
3) List of predictions, Wikipedia
4) End of civilization, Wikipedia