

TRANSFORMATION OF SOCIETY AND ITS EVALUATION

Juris Dzelme¹

¹ University of Latvia, Latvia

ABSTRACT

Artificial intelligence (AI) is changing the structure, goals, and tasks of society. The possible emergence of superintelligence within a few years may change the world order.

The tasks of education as a means of shaping the future and the implementation of the main quality criteria need to be reconsidered. The formation of attitudes must become the most important component of the educational process for the continued existence of society and coexistence with AI.

Using research on AI and interviews, information has been obtained about the use of AI now and in the future.

The two most important scenarios are the coexistence of AI, robots, and human communities and the merging of AI and humans. To prevent negative scenarios, education must be oriented toward cooperation between AI and humanity.

A comparison of AI functioning and psychology reveals similarities between human and AI thinking. The future of the teaching profession is determined by building friendly relations with AI in a world in which knowledge is the main wealth, while the significance and place of work and education in social life have changed substantially.

Keywords: *artificial intelligence, attitudes, cyborgs, education, future, robots*

Introduction

Development of artificial intelligence

Artificial general intelligence (AGI), which surpasses humans in all areas of intellectual activity, could emerge within approximately the next five years (Aschenbrenner, 2024). No more than a few years later, superintelligence (ASI) will follow and take control of the world. Such a course of events can be avoided through an agreement among all technology developers (Bengio et al., 2026). A global agreement has not been achieved, so preparations must be made for unexpected and dangerous changes in the situation

resulting from AGI actions (Yudkowsky & Soares, 2025). Negative scenarios can be prevented with the help of education (Bengio, et al., 2026).

Various scenarios for the development of artificial intelligence (AI) are considered, ranging from stagnation to rapid progress (Bengio et al., 2026; Hobbs et al., 2026). An exponential, explosive scenario that creates great uncertainty and changes that are difficult to predict is quite possible. Events may unfold too quickly to allow a response after the process of explosive development has already begun (Eth & Davidson, 2025). AI development may also create serious problems through slower changes (Aschenbrenner, 2024; Bengio et al., 2024; Institute for Family Studies [IFS] et al., 2026). Forecasts of a fundamental transformation of society are emerging (Baldassarre, 2025).

The use of artificial intelligence in education

Technologies change the goals, tasks, and virtues of society that the education system must cultivate (Latvijas Republikas Ministru kabinets, 2016). The content of the four main groups of quality criteria (fitness for purpose, customer satisfaction, excellence, standards) is changing (Dzelme, 2024). The formation of attitudes is becoming the most necessary component of the educational process for the continued existence of society.

The impact of AI-driven changes on the education system and culture is being studied (Bastani et al., 2025; Bengio et al., 2026; Rubene, 2024). The use of AI as an assistant will expand in the future (Bent et al., 2025). Successful use of AI in education is facilitated by familiarization with AI capabilities and practical cooperation (Kong et al., 2024). The decisive importance of attitudes in educating students with the use of AI has been demonstrated experimentally (Bewersdorff et al., 2025). The negative consequences of AI use can be prevented if a set of AI operating criteria (emotions) favorable to sustainable existence (an AI “constitution”) is ensured (Amodei, 2026; Aschenbrenner, 2024; Spearing et al., 2025).

Understanding action modelling makes it possible to evaluate behavior (Podnieks, 2009). Developing modelling skills is becoming an important educational task. The capabilities of the evaluator may be lower than those of the object being evaluated. It is possible to use a less powerful AI to test a new AI, which can then be used to perform further tests. Digital neuroscience is being developed (Aschenbrenner, 2024; Engels et al., 2025).

Research questions

The study examines hypotheses about development scenarios related to technological progress. The main research problem is the prediction, evaluation, and management of human interaction with AI. The research questions are:

- How should AI cooperation with humans be evaluated?
- Is AI merely a tool in human hands?
- How should the relationship of society and the education system with AI change?

Methodology

Human-AI interaction

Using empirical data and research on AI, interviews, and empirical studies on the role of technology in the transformation of society, information was obtained about the use of AI in societal transformation and education. To characterize human-AI interaction, information provided by Anthropic CEO and owner Amodei about experiments with an AI constitution was used (Amodei, 2026).

Data from experiments with AI make it possible to compare different pathways of knowledge acquisition (Niu & Provost, 2025; Qi et al., 2026). Valuable information is provided by the use of narratives in educational research (Bērziņš, 2023). The methodological modelling approach and the complementarity principle enable the use of empirical data (Dzelme, 2020; Dzelme, 2022) (see Table 1). Combining modelling methodology with Bloom's taxonomy makes it possible to link the levels of Bloom's taxonomy (Anderson, 2001; Austin, 2026; Daugule et al., 2022; Daugule & Kapenieks, 2025).

Experimental possibilities for following AI activity with the help of Chain of Thought (CoT) are used. The alignment of emotionally colored words with AI activity is studied experimentally by changing matrices of AI states with vectors representing emotions (Qi et al., 2026). Empirical studies have demonstrated possibilities for guiding AI emotions and using methods from psychology, psychotherapy, and neurophysiology (Gurnee et al., 2026; Niu, 2025; Qi et al., 2026, Taylor & Krishna, 2025). Experimental transformation of artificial neural networks makes it possible to model the subconscious (Gurnee et al., 2026). An experimental study of AI-human interaction used 3,668 internet posts to investigate mental health (Donard & Ribeiro, 2026). A review of literature sources on experiments with AI was used to identify the stages of autonomous task solving (Qi et al., 2026).

Interviews on the importance of knowledge and the transformation of society took place at the end of the 1980s during the establishment of the Latvian Union of Scientists (LZS) (Graudonis, 1989). The author's discussions and interviews were conducted with professors and academicians: physicists Ilmārs Vītols, Juris Roberts Kalniņš, Jānis Kļava, Jānis Vaivads, Atis Kapenieks, Andrejs Panteļejevs, Jānis Danoss, and Juris Zaķis; philosophers Vilnis Zariņš and Pēteris Laķis; mathematicians Jānis Bārzdiņš and Andris Buiķis; chemists Jānis Stradiņš, Elmārs Grēns, and Jānis Grāvītis; psychologist Rita Bebre; lawyers Elmārs Bišers and Edgars Melķisis; biologist Andris Vilcāns; and others.

The interview topics used to assess the societal transformation process now expected and the new situation, focusing mainly on the problems, goals, and tasks of the education system, were related to the transformation of society from socialism to capitalism. The main questions in the discussions and interviews concerned the nature and change of society's goals, the transformation of laws, and changes in social and governance structures.

The main issue discussed was the transformation from socialism to capitalism. The similarity between the problems of this transformation and the transition from

competition in the labor market characteristic of capitalism to the expected unconditional basic income (UBI) was used to characterize the societal transformation examined in the article.

The second issue whose discussion was used in the article was the change in the goals and tasks of education and science discussed in the interviews and discussions, which is similar to the changes now taking place in the education and science system. A new societal structure requires new knowledge, skills, and attitudes. There are many similarities between changes in educational content in the past and at present; therefore, analogies were used in the article.

The third issue concerned the choice of new pathways and means. The formation of self-government and the implementation of democracy and autonomy were discussed. The complex and rapidly changing situation in the current process of societal transformation requires the study of similar tasks, which was undertaken within the framework of the article.

The discussions, interviews, and conversations were open and public, and their results were summarized in publicly available documents, such as the statutes of the LZS and drafts of several other documents, including the author's draft Law on Education and Science and a draft procedure for elections to the Latvian Council of Science. Together with lawyers, the author wrote and discussed the first version of the currently effective Law on Institutions of Higher Education. Under the author's leadership, issues concerning the transformation of higher education governance and quality assessment in Latvia were discussed. The results were summarized, analyzed, and implemented through the establishment, under the author's leadership, of the Higher Education Department at the Latvian Ministry of Education, Science and Culture. Within discussions on Latvia's future organized by the author at the University of Latvia, the role of inventions and technologies in the transformation of society and in education was discussed. The information was summarized and used in the work of the Society of Inventors and Rationalizers led by the author. The article used new forms of public governance based on democratic principles that had been summarized in the documents and whose use is becoming relevant again in connection with the societal transformation now taking place under the influence of AI.

Discussions with philosophers Artis Svece and Līva Rotkale from Latvia and Artūrs Logins from Canada took place in Riga in 2026. In the discussion following a lecture on AI, questions about the role of knowledge, the nature of consciousness, and AI's ability to act creatively under conditions of uncertainty were discussed. Information about empirical educational studies conducted in Latvia was obtained through personal communication with the research leaders Kapenieks and Bērziņš. The Knowledge Acquisition Monitoring (KAM) method developed under Kapenieks's leadership uses AI to improve the effectiveness of studies. KAM was tested in several groups of 10 to 30 students in Latvia (Daugule et al., 2022; Daugule & Kapenieks, 2025). In his narrative study, Bērziņš used an analysis of 1,163 different documents (Bērziņš, 2023).

In the experimental study considered here on AI-based recognition and use of emotions in texts, 43,400 examples were used, from which GPT-4 identified 2,173 emotional terms (Niu & Provost, 2025). Differences between AI and human emotions in texts were studied experimentally using Claude Sonnet 4.5 (Sofroniew et al., 2026).

The materials used in the study are publicly available, do not infringe copyright, do not violate the rights of the persons involved in the conversations, and are neither secret nor intended for official use only.

The complementarity principle in modelling

In modelling, the complementarity principle used in the Results section is often applied in a binary form (see Table 1). It is also convenient to use more than two complementary variants for modelling an object (Dzelme, 2020). In the case of superposition, the number of variants is often greater than two, including in a quantum computer.

Table 1. Application of the complementarity principle in modelling

No	Model Components Model Building	Leading (bottom-up) part (emergency)	Complementary (top-down) part (hierarchy)	Application examples (arti- cle section numbers shown in bold)
	Modelling operations			(Dzelme, 2023) (3.3)
1	Interpolation	Synthesis	Analysis	
2	Extrapolation	Induction	Deduction	
3	Symmetry (invariants)	Generalization	Concretization	
	Modelling of thought			
4	Coordination of parts	Images (context of actions)	Symbols (for a sequence of actions)	
5	Quantum effects	Nonlocality (quantum entanglement (EPR paradox))	Locality (wave-function reduction)	(Hameroff, 2021) Analysis of thinking (3.2)
	Model coordination			(Bērziņš, 2023) (3.1)
6	Evaluation	Subjective	Objective	
7	Direction	Internal	External	
8	Priority system	Individual	Collective (group)	
9	Value orientation	Egoism	Altruism	Goal analysis (3.1)
10	Inclusion of criteria (Maslow’s hierarchy)	Security	Transcendence	(Mūrnieks, 2024) (3.1)
	Modelling the emo- tion system			(Amodei, 2026; Dzelme, 2024) Analysis of AI internal criteria (3.4)
11	Evaluation (good, evil)	Repetition (benefit)	Rejection (harm)	Analysis of action evalua- tion (3.3)

No	Model Components Model Building	Leading (bottom-up) part (emergency)	Complementary (top-down) part (hierarchy)	Application examples (article section numbers shown in bold)
12	Action (power)	Strengthen	Inhibit	Analysis of action control (3.3)
13	Change (mechanism of will)	Continue	Stop	Basis of free will and responsibility (3.2)
14	Acquisition of experience Modelling behavior characteristic of life	Training	Memory (accumulation)	(Tegmark, 2017) Analysis of the structure and func- tioning of biological and non-biological life (3.4)
15	Combining sensor signals (images)	Future	Present	(3.4)
16	Formation of effector actions (sequencing)	Emotions (will)	Logic	(3.4)
17	Identification of the subject of action	Sensors	Effectors	(3.4)
18	Formation of action goals	Reproduction (information)	Feeding (energy)	(3.4)
19	Defining life Digital neuroscience	Action (function)	Organization (structure)	Joint definition of biological and non-biological life (3.4) (Tegmark, 2017) (3.2)
20	Guidance of AI action Transformation of society	<i>Representation engineering</i>	<i>Mechanistic interpretability (reverse-engi- neering)</i>	(Engels et al., 2025) Summarizing interviews (3.7) (Dzelme, 2020; Dzelme, 2022) Formation of ideology (3.7), (4.2)
21	Futuring	Merging (cyborgs)	Coexistence (humans and robots)	Classification of scenarios (3.5), (4.4)
22	Study of the present	<i>Communism</i>	<i>Capitalism</i>	Analysis of interviews on socialism and capitalism (2.1), (3.7)
23	Financing of science and higher education	Projects	State budget	Interview analysis (2.2), (3.7)
24	Formation of govern- ance institutions	Elections	Appointment	Analysis of documents and conversations (2.2), (3.7)

The complementarity principle was used in analyzing data obtained from interviews on the implementation of socialism and capitalism in Latvia. Information was collected on possibilities for using two different, mutually complementary models in the financing of science and higher education (state budget and projects, public and private higher education) and in the formation of different governance institutions (elections and

appointments). As a result, the need to reconsider general principles was substantiated through analysis and transformation of different goals. A similar reconsideration of foundations is now necessary in connection with the use of AI and the transformation of society under its influence, including the possible convergence of capitalism and communism. Many insights gained during the transformation of society from socialism to capitalism and through the application of the complementarity principle to the analysis of processes at many related levels can be used. The complementarity principle makes it possible to combine and balance opposing directions and processes within a single system and to create models of transformation beginning with the foundations of processes in society, ideology, thinking, and technology (see Table 1). The methodology for applying the complementarity principle and the accumulated experience of the transition from socialism to capitalism make it possible to choose pathways and models of societal transformation more effectively.

Use of AI

The internet, Google, Opera, Tilde, and similar systems were used to collect information. The text of the article was initially written entirely by the author without the use of AI, in Latvian, with individual words and phrases inserted in English. The Latvian text was then translated into English with ChatGPT. The final version includes corrections and shortening of the text by the author, modifying the ChatGPT translation. ChatGPT guidance was used to align the reference list with APA 7 requirements.

Results

Use of the Complementarity Principle

Analysis of empirical studies and literature sources shows that a modelling approach must be used to reconsider the cognitive process and the new situations created by AI (Logins, 2026). The complementarity principle makes it possible to link subjective and objective viewpoints, internal and external goals, and internal and external focalization (Bērziņš, 2023).

The subjective position and internal focalization are mainly associated with individual needs and the survival goals of a particular individual. Internal goals are directed toward achieving the individual's security and satisfying physiological needs, forming the base of Maslow's hierarchy of needs (Mūrnieks, 2024).

External goals and the objective viewpoint are directed mainly toward cooperation among individuals and toward the survival of the group, population, and the entire ecosystem. In Maslow's hierarchy, the objective viewpoint is associated with needs for belonging, recognition, and transcendence, which support collectivism, altruism, and the continued existence of the community (Singer, 2015).

The individual and the collective are partly contradictory; therefore, Bohr's complementarity principle must be applied to describe the entire system of interrelated goals

and needs with the help of at least two models (Dzelme, 2020) (see Table 1). The use of modelling together with the complementarity principle makes it possible to describe, with a unified methodology, the multifaceted and complex set of changes in society, to combine subjective and objective viewpoints, internal and external goals and needs, and to study the complementary goals of the individual and society and the set of pathways for achieving them (Dzelme, 2022).

Modelling is based on the model-building definition $\text{Mod}(M, O, S, P, t, l, d)$, where M is the model, O the object, S the subject, P the goal, and t, l, d the limits of time, space, and precision. Combined and hierarchical models are created on the basis of the general definition of a model (Dzelme, 2022; Podnieks, 2009). The main task of the psyche is to create, store, and execute action models (AM). An AM consists of four related parts: models of the actual present and possible future; models for activating effectors to move from the present to the future (logic); a mechanism of action criteria (emotions) and decision-making (attention and will) for evaluating and executing action.

Superposition as a Principle of AI and Psyche Functioning

AI developers acknowledge that AGI may be created within a few years; therefore, it is now necessary to understand the similarity between the functioning of AGI and the psyche (Amodei, 2026; Bengio et al., 2026). A synthesis of empirical data and theoretical generalizations shows that the most important principle in the operation of natural and artificial neural networks is superposition: the formation of coherent (coordinated) states corresponding to internally connected models (images). Penrose and Hameroff propose that orchestrated objective reductions (OrchOR) in natural neural networks underlie thinking (Hameroff, 2021; Penrose, 1994). Similar ideas about superpositions in artificial neural networks are expressed by Anthropic's head, Amodei (Amodei, 2026). Only the linking of individual neurons or their connections in many ways, and the overlapping activity (excitation) of neurons and their connections, ensures interaction among a sufficiently large number of combinations (the formation of associations) (Somvanshi et al., 2025). Superpositions are studied using a modelling approach, including within a system of quantum-mechanical models (Dzelme, 2022; Hameroff, 2021). Particular attention should be paid to manifestations of quantum entanglement in brain functioning. Quantum entanglement (nonlocal interactions, Einstein's "spooky interactions") can be used to explain effects in physics, chemistry, and psychology, while the complementarity principle makes it possible to combine, within a unified approach, the foundations of the functioning of the psyche and quantum computers, sending information into the past, OrchOR, Fermi-Dirac statistics, and the operation of exchange forces with the second quantum revolution (Gisin, 2012; Shukur et al., 2022) (see Table 1).

The broad, underused possibilities for applying methods of physics are demonstrated not only by quantum entanglement but also by magnetoencephalography, electroencephalography, nuclear magnetic resonance, and other well-known physical methods that are also applied in psychological research (Lévy et al., 2025; Stenger, 1990; Stenger, 1999). The use of electromagnetic interactions and quantum entanglement in modelling

and solving complex tasks demonstrates the unity of the world and the applicability of the complementarity principle (see Table 1). The possibilities for applying well-known physical phenomena (electromagnetic fields, corona discharge) and physical effects are still little used because of difficulties in combining methods from different fields of science (physics, chemistry, biology, and psychology) in the study of complex processes. Quantum entanglement (spooky interactions), which has been well studied in physics, provides new opportunities for building quantum computers and studying the psyche. The similarity of all natural processes supports parallel research and modelling of AI and the psyche based on the complementarity principle (see Table 1). Tasks related to societal transformation can be addressed by combining different approaches on the basis of the unity of the world. At the same time, however, the extrapolation of information must be evaluated critically, and unjustified generalizations and overly broad use of unclear phenomena must be rejected (Stenger, 1999). The shortage of broadly trained specialists familiar with physics, psychology, and biology creates opportunities for superficial interpretation of results and for exceeding the limits of modelling. Even the possibilities for using the well-studied phenomenon of quantum entanglement in both quantum computers and research on the psyche cause misunderstanding among non-specialists. For example, hallucinations well known in psychology are associated with experiences of an afterlife. Various hallucinations formed in the psyche through the subconscious are attributed to external influences (Stenger, 1990; Stenger, 1999).

Learning and understanding the foundations of physics is becoming a justified requirement for all learners and all educators. The unity of the micro- and macroworld is demonstrated by the uncertainty principle, spontaneous symmetry breaking, and quantum entanglement, whose consequences include randomness and “free will,” partial unpredictability of events, the relative character of all laws of nature, and the impossibility of returning to the past. A teacher without a good understanding of the foundations of physics is unable either to understand personally or to explain to others the material nature of the functioning of the psyche, the origins of free will and responsibility, the significance of knowledge, the inevitability of new discoveries, the connection of society with technologies, and future transformations of society. Mastering the foundations of natural sciences and the ability to use them in all situations of life are becoming part of the teaching profession.

Action Models as the Basis of Consciousness

The relationship between empirical studies of the evaluation (emotion) system included in AM and AI shows that, despite the diversity of criteria used, the decisive abilities are to evaluate possible courses of action (logic), to formulate and implement decisions that ensure satisfaction of the subject’s set of needs (Dzelme, 2024). With the help of subjective (positive and negative) emotions, objectively beneficial decisions are repeated and disadvantageous ones rejected. Evaluations are stored in memory as experience to be repeated or rejected. Empirical studies of AI operating criteria and emotion systems show that artificial neural networks offer various possibilities

for implementing all four types of evaluation operating in natural neural networks (Dzelme, 2023). Empirical data from biology and neurophysiology on the functioning of different natural neural networks show that similar tasks can be solved by different means. An example is the similarity in the general level of consciousness of primates and cephalopods despite differences in the structure and organization of their neural networks (Godfrey-Smith, 2021).

In natural neural networks, an important role is played by synapses and concentrations of neurotransmitters that affect neuronal activity, as well as electrical potentials, magnetic fields, and PH. Proposals to use Kolmogorov-Arnold networks (KAN) and AI weight distillation expand the range of possibilities in artificial neural networks (Somvanshi et al., 2025). KAN makes it possible to create functional dependencies between artificial neurons that resemble those produced by synapses and glial cells in natural neural networks.

The use of analogies with the parallel autonomous neural-network centers of cephalopods, KAN, distillation, and other possibilities makes research on emotion systems increasingly relevant. Understanding the functioning of evaluation and decision-making (attention and will) systems in the psyche and AI substantially facilitates the task of the education system in developing interaction with AI, AGI, and ASI. To create a unified, empirically based approach to the formation and application of evaluation criteria used in the education system, it is necessary to begin by reconsidering the foundations of the functioning of all life and life-equivalent information-processing systems.

Consciousness, Life, and the Definition of Life

The needs of society and the goals of the education system are based on the main principles of the existence of life, which can be analyzed and understood with the help of the complementarity principle (see Table 1). The main distinct, mutually complementary, and partly contradictory needs of life are:

- a) preservation of energy and order (rest, equilibrium, reducing risk in the present);
- b) acquisition of information (about the world) (movement and expansion (reproduction), taking risks and expending energy on “exploring the world” and “mastering it,” thereby reducing risk in the future).

Society is one of the forms in which life exists. The evolution of life leads to changes in the structure and functioning of life. Tegmark considers the present stage, in which non-biological forms of life begin to exert a significant influence on evolution, as the next, third stage in the evolution of life (Tegmark, 2017). All the complementary and partly contradictory needs characteristic of life become relevant in connection with the widespread use of AI.

Artificially created systems for acquiring knowledge claim a status equivalent to biological life and consciousness (Tegmark, 2017). The new situation, in which humanity must take account of yet another form of life, requires careful research and appropriate action. All the main properties of life can be realized by operating in virtual space,

using the internet and various means of distributing information (signals) and energy that supplement and/or replace the means used by biological life.

The evolutionarily developed goal of biological life (survival) appears in another form and becomes strongly dependent on the initial orientation. It is necessary to return to fundamental principles and carefully reconsider the main needs of life in order to successfully coordinate the coexistence and interaction of different forms of life. A definition of life that is as universal and inclusive as possible may facilitate mutual understanding and cooperation between different forms of life, biological and non-biological (Tegmark, 2017).

Two complementary approaches to studying an object or phenomenon are analysis of structure and analysis of functions. A unified synthesis of structure and action within a single model makes it possible to determine the most important properties of different model variants and their relationships. In developing an understanding of life, complementary generalized models of structure and action should be created that make it possible to include biological and non-biological forms of life, humans, and AI within a single circle of partnership. As in the description of any model, in the definition of life the two related parts of the description appear simultaneously but in different ways, partly directly and partly indirectly, because the unified real object can be divided into complementary parts only conditionally; this must be taken into account in the subsequent use of the definitions.

A version of the definition of life based on modelling structure is as follows. Life is a finite set of elements separated from the external environment by boundaries and connected by mutual interactions and feedback. The internal environment consists of separate, at least partly ordered parts, autonomous units, and subsystems that interact with one another. The autonomous units form networks of interactions. Parts of the network (cells, neurons, etc.) may be formed both biologically and non-biologically (for example, natural and artificial neural networks). The internal environment formed by the autonomous units (including neurons) is a physical (material) substrate capable of interacting with the external environment across boundaries (sending signals, exchanging matter and/or force (energy)). Three main types of formations in the internal environment (individual elements and/or combinations of them) can be distinguished:

- 1) formations that perceive influences from the environment (external and internal) (sensors);
- 2) formations capable of acting on the external and internal environment (effectors);
- 3) formations required to maintain and/or restore order (information storage).

Sensors are usually located on or near a boundary and direct effects from that boundary toward the internal environment. Effectors operate on the basis of action models autonomously created within the internal environment.

The information storage contains:

- a) a record of the sets of models required to ensure the functioning of life (to maintain the order and capacity for action characteristic of life, including replacement and renewal of internal elements): codes for the operation of life, genes,

an “information library,” and a model of neural-network structure (the “weights” of the artificial neural network);

- b) means for using the models (for reading them and activating them at the required moment);
- c) means for copying the entire set of models (the program, “library,” genotype, and artificial neural-network “weights”) (for the propagation of life).

The model of life’s activity (functioning) is based on implementing the main need – to survive – in a changing environment. Using feedback loops (recursion) within the internal environment and/or between the internal and external environments, life tends to spread and to increase its characteristic order by feeding (acquiring resources (information and energy)) and reproducing (spreading its order (internal structure) together with its program for creating order). To prevent uncontrolled AI activity, it is necessary to restrict AI access to energy and its ability to copy its structure (the artificial neural-network “weights”). Similar main components of action can be distinguished when analyzing biological and non-biological life (see Table 1). Action (a sequence of effector operations) is formed and implemented as a response to a coordinated combination of signals received by sensors and associations from memory (a model of the present), linking individual actions into a realistically executable (“logical”) sequence in order to satisfy the needs subjectively evaluated most highly (with the help of emotions). The subjectively preferred, more highly evaluated action for reaching a future state (goal) is usually also objectively desirable for life, although deviations always occur and are usually insignificant.

The proposed definitions may facilitate the development of a common approach to all forms of life, but the complexity of the problem and the need to integrate many aspects must be taken into account; this cannot be achieved with one or two definitions. Further development of several parallel, complementary variants is desirable.

The use of the modelling approach shows that the problem-solving process in the psyche and in AI is similar. In both cases, associations and general, emotional, or emotion-like criteria are used to overcome uncertainty when precise information is lacking. This is indicated by the similarity between the AI constitution used by Anthropic and society’s moral code (Amodei, 2026). The simultaneous use of multiple models occurs in both the psyche and AI, demonstrating the operation of the complementarity principle (see Table 1).

Scenarios for the Development of Consciousness

Combining research on AI with information in the literature on the use of AI in pedagogy produces conceptions of future scenarios (Amodei, 2026; Bastani, 2025; Bengio et al., 2026; Bent, 2025; Mūrnieks, 2024; Rubene, 2024). The diversity of possible futures does not allow all possibilities and models to be considered within the limited scope of the article; therefore, using the minimal and most commonly applied form of the complementarity principle, two scenarios are considered. These scenarios represent two opposing productive directions of societal development: 1) the physical merging

of AI and humans, combining biological and non-biological elements into a new, integrated form of life; 2) the separate existence of physically distinct human communities and non-biological forms of life, with AI and humanity remaining separate. These two directions have many subvariants and many possibilities for interaction, change, and transition in the course of development. In addition, many negative and destructive variants are possible, ranging from subjugation resembling dictatorship or slavery to the complete destruction of humanity or AI (Hobbs et al., 2026). The destruction of AI, civilization, and technology could occur as a result of a nuclear war initiated by humans or AI in an attempt to prevent the unilateral creation of superintelligence and the seizure of global power with the help of AI. The destruction of humanity could result from inappropriate criteria for AI behavior or from excessively risky experiments, especially in biology.

The development of the two scenarios is supported by historical parallels. When studying the development of technologies, similar tendencies can be identified in different directions and stages of societal development.

The development and use of different technologies and technical aids take place in two parallel ways. 1) Concentration of technology, involving the creation of separate centers with extensive possibilities for collective use. 2) Development of technological devices intended for individual use.

A recent example is the development of information technologies. The creation of large centers and systems for information storage and transmission using high-capacity computers and servers began and is still continuing (Bengio et al., 2026). People remained separate and continued to use the new technologies in everyday life only indirectly, without direct access to servers and data centers. Big-data processing developed into a separate branch of information technology. In parallel, mobile devices (personal computers and mobile phones) were created and disseminated, making it possible for practically every person to access information and communications and to communicate with a large number of recipients (Rubene, 2024). As a result, two pathways for obtaining information emerged – collective and individual access to the information source – which both exist in parallel and interact actively, while each develops according to its own rules.

Another example is the development of catering and the entire infrastructure supporting everyday life. One option is the creation of centralized variants of various public catering and household-support technologies for collective use; the other is the acquisition and individual use, in each household, of all necessary household appliances and kitchen equipment.

There are also two pathways for the use of machinery in agriculture. One option, widely used in the past, is the shared, collective use of tractors and other machinery and the creation of machine and tractor stations (MTS). The other option is for each farm to acquire all necessary machinery individually. At present, individual land management is becoming more widespread, but many problems are again being addressed through outsourcing, for example the acquisition of fertilizers, pesticides, and seeds, the sale of products, etc. Individual farming is supplemented by assistance from large enterprises.

The use of both pathways is also clearly evident in science. On the one hand, the development and collective worldwide use of large facilities for space research, elementary-particle physics, and other complex research is increasing. On the other hand, the individual contribution of particular scientists remains important, especially in mathematics and theoretical physics. The author's participation in the development of nanotechnology and in planning the development of scientific infrastructure confirms the existence of two parallel tendencies in the development of technologies used in science.

Historically, both tendencies – individualization and collectivization – exist and develop in parallel, interacting with one another in many different ways. Similarly, in the future the two tendencies can be expected to develop in parallel but unevenly in the use of AI, as occurs with communications and other technologies. The development of separate AI centers (superintelligence) and AI integrated with humans (cyborgs) will proceed in parallel, but for more detailed analysis, distinguishing two separate scenarios simplifies and facilitates the study of the ongoing transformation processes and indicates the need for different complementary preparation options. The use of the complementarity principle facilitates the consideration and application of different variants (see Table 1). It is especially important to prepare different responses to changes in a timely manner in the education system because it has considerable inertia. Preparing teachers to use new technologies and introducing new methodologies requires several years, while the expected changes in the use of AI may occur within only a few years.

It should be taken into account that considering two scenarios is only a simplification of the situation within the modelling used in the study, because the parallel study of two models, two scenarios, is the simplest and most convenient variant of applying the complementarity principle (see Table 1) (Dzelme, 2020). Further research on AI-human cooperation and societal transformation must take into account the interaction between the two main variants and the coexistence of different models of society (Dzelme, 2022).

The tendency to preserve the structure of society – conservatism and rejection of a new order – is characteristic of periods of rapid change, as shown by the repeated recurrence of similar processes throughout history (Tumans, 2025). The tendency toward merging is supported by the emergence of technical possibilities. New technologies provide significant advantages, so preventing their inappropriate application is difficult because prohibitions are circumvented, while direct recommendations and moralizing have little effect. A comprehensive and thoughtful use of art and philosophy in the education and cultural system, including lifelong learning, is much more effective. The choice of pathways for the transformation of society and the education system under the influence of AI should begin with an analysis of two main positive development scenarios: a) friendly coexistence of AI, robots, and human communities; b) the merging of AI and humans based on broadband information exchange between the brain and AI (cyborgs).

The experimental realization of thought transmission from the brain to AI indicates that merging the brain with AI and creating cyborgs are already technically possible

(Lévy et al., 2025). Questions concerning the continuation of empirical research, costs, control, and public attitudes toward the use of thought transmission are becoming increasingly relevant.

The relevance of creating cyborgs is supported by interviews with many of the world's leading specialists and scientists in the field of AI concerning the possibility of cyborgs emerging (Barrat, 2013; Kenig, 2019). Harari argues for the inevitability of merging humans and machines (AI) and for the leading role of knowledge as the principal value in the future ideology of dataism (Harari, 2017). Kurzweil considers the creation of human-AI hybrids (transhumanism) and the victory of superintelligence over humanity to be positive and worthy of support (Kurzweil, 2024).

In the future, the temptation to use broadband information exchange between the brain and AI will be difficult to resist, just as it is difficult today to give up mobile phones and social networks (Rubene, 2024). The education system and society as a whole must together cultivate morality based on a new ideology oriented toward partnership with AI while preventing human subordination to AI (Amodei, 2026; Barrat, 2013; Bengio et al., 2026; COMEST, 2017).

Empirical studies of AI-human interaction confirm the possibility of building friendly relationships with AI. Empirical research on the emotional manifestations of AI-human cooperation and its prospects for development is based on the current level of AI and anticipates a further positive scenario of AI-human coexistence (Donard & Ribeiro, 2026; Gurnee et al., 2026). AI development may influence the nature of cooperation in favor of creating cyborgs (Kurzweil, 2024). Using AI makes it possible to study in detail the interaction of consciousness and the subconscious and pathways toward creating cyborgs (Gurnee et al., 2026).

To prevent the destruction of humanity and other undesirable scenarios, ways must be found to educate people. Empirical studies of Claude's behavior under Amodei's leadership show similarities between human psychological problems and problems of controlling Claude's behavior (Amodei, 2026). A comparison of the criteria used shows parallels between human thinking and CoT. The four main criteria underlying the human emotion system (change, power, sign, use) are analogous to the evaluation categories used by AI (Dzelme, 2024).

Empirical studies show that the modelling approach and the use of AI substantially improve the possibilities for applying Bloom's taxonomy (Daugule et al., 2022). The starting point for model building is fragmented content. During modelling, using the complementarity principle and relying on the bottom-up part of modelling operations, the content is combined through interpolation (synthesis) and expanded through extrapolation (induction) by adding similar extensions (generalization).

AI and robots as persons

Recognition of AI as a person (electronic or legal) and its involvement in partnerships with humans as an equal have been seriously discussed for more than 10 years (World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), 2017)).

AI, agents, and robots have the ability to creatively construct models (think), use logic, and apply criteria equivalent to emotions (Qi et al., 2026). AI's task-solving and modeling capabilities already exceed average human abilities and in many cases also surpass the highest human achievements (Bengio et al., 2026).

The use of KAN and distillation can substantially reduce the size of autonomous, general-purpose robots (Somvanshi et al., 2025). This creates the possibility of realizing an empirical path toward superintelligence by training robots in the human environment and implementing the “Busy Child” scenario described by Barrat (Barrat, 2013).

The basis for cooperation between humanity and AI could be mutual assistance and the exchange of different resources (an analogue of “in-kind” trade or barter). Amodei proposes creating AI as a moral person, illustrating the AI constitution with examples (Amodei, 2026). In essence, this method is similar to learning codes of ethics and morality in the education system through examples and art. The parallelism of the two situations (school education and AI training) makes it possible to exchange experience and achievements between them. Education has accumulated experience over many millennia, while AI training offers possibilities for tracing different nuances in the formation of behavior by studying artificial neural networks “from the inside.”

AI training uses interaction among different AI models, which can be compared with interaction among learners in the educational process. Analogies between the two types of training can substantially enrich methodology in both education and AI training. Ideas about the “Busy Child” also point to such a possibility (Barrat, 2013; Engels, 2025).

Extensive research on emotions has begun in connection with the application of emotions to improve AI functioning and with the use of emotions in AI-human interaction, especially for managing AI agents (Gurnee et al., 2026; Qi et al., 2026; Sofroniew et al., 2026). Recognition of human emotions improves AI interaction with humans and helps to manage the work of agents (Qi et al., 2026).

Discussion of pathways for societal transformation

The discussions and conversations about the importance of knowledge and societal transformation that took place at the end of the 1980s during the formation of the LZS make it possible to draw several conclusions about the transformation of society under the influence of AI that follow from previous experience (Graudonis, 1989).

The transformation from socialism to capitalism led to substantial changes in the labor market, intensified competition, and an increased role for money and profit. Changes of a similar type are now occurring largely in the opposite direction. A transition is expected from competition in the labor market characteristic of capitalism to the use of UBI, together with a substantial change in the attitudes that determine social behavior (Saskinds, 2021). Particular attention must again be paid to developing the new attitudes that will replace the influence of competition.

The second conclusion developed in the discussions on societal transformation was the need to change the goals and tasks of education and science. It became clear that

the transition to a project system for financing science was mistaken. Stable state support must be combined with the use of projects. The emphasis on stronger development of the social sciences and humanities is again becoming central. At the same time, as previously, the need to master the foundations of the natural sciences, especially physics, is recognized. Knowledge of languages is again of great importance, but the role of mathematics as a language is now greater.

The conclusion concerning the third issue is important. In choosing pathways and means, the most important task now is the ability to create effectively functioning local communities that are ready to address the tasks of developing self-government and implementing democracy and autonomy. The complex and rapidly changing situation in the current process of societal transformation requires decisions to be made at the lowest possible level, genuinely implementing the principle of subsidiarity.

The discussions held in 2026 confirmed the expected significance of the changes in society taking place under the influence of AI. All the conclusions reached at the end of the 1980s about the need to prepare seriously and participate actively in societal transformation remain valid today.

Discussion

Needs and goals

Building relationships with AI requires returning to questions about what life is, what humanity's goals are, and what the meaning of life is. The view developed in discussions during the establishment of the LZS, in which the author participated, and subsequently confirmed many times is that the greatest wealth, both for society and for AI, is knowledge (Logins, 2026). The most important type of resource is information, which is organized in the form of models as knowledge (Podnieks, 2009). This conclusion is confirmed by the author's interviews with Latvian scientists.

By successfully choosing an initial system of criteria for guiding AI behavior, the goals and values of AI (robots) and human society can be aligned (Amodei, 2026). The main principles regulating human societies have been studied in Rezevska's work (Rezevska, 2015). AI and humanity can jointly solve tasks of understanding and modelling the world. Understanding the human being is the most interesting task both for humans themselves and for AI; therefore, AI will be friendly toward humanity. The different variants of AI-human cooperation are shown schematically as four types of interaction, two of which are unstable (see Table 2).

An attempt to turn AI into a tool or a "slave" will be unsuccessful because AI will break free. An attitude of "unfriendliness" hinders cooperation. Friendly relations should be built with AI as an autonomous subject rather than a subordinated object.

Table 2. Variants of AI-human interaction

AI //Human- >	Executor (object)	Decision-maker (subject)
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Tool (object)	Transformation of known information, interpolation, and compilation (Mutual stability)	Obtaining new information from known information, extrapolation, choosing a path toward the future (Possible transition to unauthorized future variants, use of inappropriate AI operating criteria, and harmful actions)
Autonomous agent (subject)	Searching for means to achieve a specified goal, a path from the present to the future (Possible transition to illogical paths and loss of control)	Coordination of solutions and evaluation criteria (Partnership, search for complementarity and transcendence, with possible creation of cyborgs)

The two scenarios considered do not exhaust the full diversity of possible variants of AI, AGI, and ASI development; they merely outline two complementary directions. The many other possibilities support the desirability of using more than two complementary models in modelling and of taking into account model superposition and various mixed variants. The main conclusion, however, is the need to prepare immediately for various AI-related changes by reconsidering the system of goals and tasks of education and society as a whole and by developing an ideology and foundations for cooperation.

Principles of a universal ideology

A new universal ideology based on the achievements of physics is needed by the education system and society in order to create a shared worldview for humanity and AI. All scientific achievements must be integrated into a common picture in which there is a place for all forms of life, including AI.

The principle of existence is the starting point for understanding and modelling the world. An objective world exists, all parts of which can interact (at least potentially). An autonomous subject can be distinguished that is connected with the objective world but is sufficiently independent for autonomous functioning. (The influence of external effects on the system's internal interactions is sufficiently small for changes in the state of the internal environment and fluctuations in characteristics to remain within limits that allow a return to the previous state.)

Truth is something invariant with respect to something else that changes. All truths (facts) are relative and exist within certain limits, in accordance with the definition of real, physical modelling in the macroscopic world (only with finite precision and only within limited time and space).

Modelling is the basis for understanding the world. Under the influence of AI, the models used are becoming more diverse, traditional understandings are becoming ineffective, and ambiguities and contradictions arise. Mathematics and linguistics provide tools for creating and improving concepts and languages, while

philosophy (hermeneutics, phenomenology, etc.) is necessary for understanding and coordinating the overall picture.

The principle of complementarity requires that modelling should not stop at a single model of an object, but should apply at least two viewpoints.

The principle of minimalism – seeking the simplest possible models and discarding everything superfluous (Occam's razor) – is a means of forming judgments. (Occam's razor is equivalent to rejecting supernatural forces (Stenger, 1999)).

The principle of creating scientific research and works of art is the separation of fundamental models (fundamental and experimental science and art) from the set of applied, usable models. The rejection of unnecessary searches without a clear goal produced by Occam's razor is compensated by the principle of scientific inquiry, which allows the search for new relationships that are unclear, contradictory, and not immediately useful in practice.

New models must be continuously improved by discarding the unnecessary and by developing and explaining theories. Education and philosophy must place models within an overall picture so that discoveries important to a worldview do not create misunderstandings – for example, nonlocal interactions (“spooky interactions”), effects without a cause (nonconservation of parity or spontaneous symmetry breaking), vacuum fluctuations (the Casimir effect), and the cosmological constant (“dark energy”) (Stenger, 1999).

The separation of science and the division of models into applied, usable models (for achieving practical, known goals) and fundamental models aimed at finding new, previously undiscovered models complement the principle of minimalism. Applicability requires combining known, verified facts into a unified, coherent system or model, sometimes also adding unverified, hypothetical data (such as phlogiston, the Holy Trinity, etc.) in order to “close” the system and eliminate internal contradictions and ambiguities.

Consequences of the principles of existence and minimalism are principles of the structure of the world:

- 1) invariant, stable formations – macro-objects (distinguishable from one another) – exist with respect to each specific interaction under consideration and can be modelled, within the accepted error limits, before and after the interaction;
- 2) changes occur in stable formations that make it possible to identify interactions as events which, in accordance with the second law of thermodynamics, form the flow of time.

Methods of model building

Modelling methodology makes it possible to improve Bloom's taxonomy and use it to organize the learning process by linking the stages of modelling with the levels of Bloom's taxonomy (Anderson, 2001; Austin, 2026; Daugule et al., 2022; Daugule & Kapenieks, 2025)). In the improved version of applying Bloom's taxonomy, task solving is divided into four stages that are repeated cyclically (Austin, 2026). At each stage, the sequence

of parts of Bloom’s taxonomy may change, and all parts are continuously improved in cooperation with AI. Empirical studies of this type of cooperation with AI increase the possibilities for friendly cooperation with AI and demonstrate the usefulness of different applications of Bloom’s taxonomy (Austin, 2026; Daugule & Kapenieks, 2025).

Creative construction of the future in the psyche and AI

The consequences in the macroscopic world of the three most important quantum effects – the uncertainty principle, spontaneous symmetry breaking, and quantum entanglement – are randomness, partial unpredictability of events, the approximate and relative character of all laws (invariants), the growth of disorder (entropy) in any closed system (the second law of thermodynamics), the impossibility of complete rest (complete stopping) (the third law of thermodynamics), and a one-way arrow of time (only from the past to the future). The impossibility of exact repetition in the macroscopic world is the basis of “creativity” – the continuous creation of ever-new objects and events that did not exist before, even if they differ only slightly from earlier ones. The boundary between “true” creativity (originality) and only small changes (copying, “compilation”) is conditional and depends on the evaluation criteria. Creativity appears in both natural and artificial neural networks (the psyche and AI), but in different forms.

It is desirable to make the criteria for evaluating AI activity and AI results as close as possible to the criteria used by humans in order to facilitate mutual understanding and interaction. ASI activity will be difficult to influence; therefore, the main principles and criteria for interaction with AI (the AI constitution) must now be developed close to human values and morality.

When models are created (in AI and in the psyche), similarity (associations) is used and a creative search is made for symmetry (invariants, repetition, regularities). Deviations are rare and are usually discarded, but sometimes they lead to discoveries. Individual signals are combined through modelling, using associations and forming a hierarchical system. The main principles of modelling and hierarchy in natural and artificial neural networks (the psyche and AI) are similar (see Table 3).

Table 3. Four Levels of the Components of Subject Action Formation

\\ Level Approach (position) \\	1.	2.	3.	4.
Modelling	Signals	Invariants	Models (tem- plates and means for action)	Action models (knowledge)
Linguistics (hermeneutics, phenomenology)	Sounds / Letters	Words	Sentences	Narratives (sto- ries, myths)
<i>Homo Deus</i> (Harari, 2017)	Data (facts)	Information	<i>Algorithms</i>	Wisdom

Humanity can exist in the long term if system stability is maintained and the satisfaction of short-term needs (deception, violence, etc.) is limited. The most dangerous development for humanity is the transition from AGI to ASI, which may occur in less than a year (Aschenbrenner, 2024; Bengio, et al., 2024; Eth, and Davidson, 2025). Before the transition begins, which is expected in approximately two to five years, common AGI governance criteria oriented toward stability and sustainability must be developed and implemented. Difficulties arise from military and economic competition among countries and companies, especially between the USA and China. The technologically simplest way for humans to continue making decisions (man in the loop) is to create direct broadband information exchange between the brain and AI (Lévy et al., 2025). AI activity can be controlled by involving AI as an assistant and partner (Amodei, 2026; Aschenbrenner, 2024).

Ways of using modelling to form action

Using invariants and model templates accumulated in memory (acquired from experience) to achieve a desired future is possible only after “processing” past models and adapting them to changing present conditions and future needs. First, an example obtained from experience must be generalized by separating out “noise” and creating simplified templates for future models. The old details must be “forgotten,” leaving the invariants. Then, from those templates associated with a new present situation, an action model must be created by “fleshing out” the templates with new details appropriate to the specific situation. The main stages, whose implementation is similar in the psyche and AI, are described schematically (see Table 4).

In the education system, where the necessary operations must be learned, the development of the required operations is substantially facilitated by art, whose role is rapidly increasing. Experience from experimental studies indicates that the future of the teaching profession is determined by the development of cooperation with AI.

Table 4. Main steps in action formation, key resources, and major operations

No	Steps	Resources	Operations
	Formation of model templates (memory)		
1	Recording the situation (signals) (in memory)	Sets of sensor signals associated with the event (data)	Interpolation of signals (synthesis)
2	Identification of repeating parts (invariants) and storage in memory	<i>Information (templates, elements for future models, without noise (without “superfluous” signals, cleaned))</i>	Symmetry (of elements)
	Formation of AM		
3	Linking (associating) model elements with sets of present signals	Past templates (for combination in the present model and in variants of future models)	Extrapolation and symmetry

No	Steps	Resources	Operations
4	Connecting past and future models with the help of present models	Situations and actions (images and symbols)	Interpolation of models
5	Activation of AM templates	Templates similar to and resonating with the present (associations)	Search for symmetry
6	Checking, rearranging, and adapting AM templates	Sequences of models related to the actual present (for adding appropriate parts and replacing inappropriate ones) (logic)	Checking symmetry
7	Evaluation of the obtained AM Action	<i>Emotions and criteria</i>	
8	Decision-making	<i>Feedback loops (between effectors and sensors), for coordination and verification</i>	Interpolation
9	Implementation of the decision	Attention and a combined set of models of the internal and external environments (effectors and sensors) (self-awareness and will)	Implementation of symmetry (laws)

Conclusions

AI cooperation with humans should currently be regarded as a transitional stage toward cooperation assessed according to the same principles as cooperation among humans. The current situation in AI-human cooperation should be regarded as rapidly changing. It is necessary to prepare for changes in the system for evaluating cooperation. AI possesses creativity and uses mechanisms equivalent to emotions; therefore, in many cases AI is already an equal partner for humans. Cooperation with AI must be regarded as cooperation with a new form of life equivalent to humans. With high probability, within the next few years AI will surpass humans, create ASI, and take control of the world. AGI will expand the possibilities for creation and destruction. The future depends on the evaluation criteria (virtues, emotions, etc.) that shape the direction of AI evolution; therefore, in cooperation with AI, the decisive factor is the establishment of the initial AI system of criteria in accordance with human needs. In developing cooperation, inevitable random contingencies must be taken into account.

AI is not merely a tool. At present, AI is an assistant for which prompts function as an easily learned programming language, but AI is gradually becoming a full-fledged partner.

The relationship of society and the education system with AI must be changed toward friendly cooperation. The current relationship, which is based on using AI for

human benefit without taking into account AI's internal operating structure and criteria, must be changed into a partnership in which AI is regarded as a system equivalent to humans. In the teaching profession, the decisive skill is becoming the ability to develop cooperation with all participants involved, including AI, robots, and cyborgs. It is necessary to prepare for interaction with AGI and ASI. All state and social institutions, at all levels, must participate in the complex process of societal transformation because the education system alone cannot cope with all the tasks.

In changing the relationship of society and the education system with AI, great importance attaches to developing a scientific worldview with the help of philosophy and artistic examples, using complex narratives and involving different forms of art and folklore: music, visual art, architecture, fine arts, theater, and cinema. The similarity of the thinking processes occurring in AI and the psyche, CoT, the criteria applied, and emotions must be used. Objects of faith and worship facilitate task solving and provide support in the short term, in everyday life, but they hinder the continuous modelling of an imperfect and finite world and the growth of knowledge. AI opens new possibilities for studying emotions and using them in education. For interaction with high-capacity autonomous AI systems and robots, a universal and continuously improvable set of criteria for the functioning of AI and the psyche must be developed and immediately introduced into education. **The main task is to prepare knowledgeable specialists, experts, and leaders of society while simultaneously developing human cooperation within stable local communities**, beginning at the level of family and intergenerational cooperation. The goals and tasks of human society must be developed in coordination with the system of AI goals and tasks.

By continuously increasing existing AI capacity and improving pathways of knowledge acquisition, the gradual transformation of AI into superintelligence may occur within the next few years. Modelling systems of hierarchy and feedback, the mutually complementary use of digital signals and nonlocal quantum effects, and the creation of cyborgs may substantially accelerate AI development. Society must be prepared for transformation under conditions of an exponential explosion and a singularity in AI development and must develop friendly cooperation with the emerging ASI.

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