selecting agent definition

selecting agent definition is a term that often arises in scientific discussions, particularly within the fields of biology, genetics, and environmental science. Understanding what constitutes a selecting agent, its role in various processes, and its significance is crucial for students, professionals, and enthusiasts exploring evolution, natural selection, and laboratory practices. This article will comprehensively define the selecting agent, discuss its importance in evolution, examine different types, explore real-world examples, and clarify its applications in both natural and artificial environments. Readers will gain a thorough understanding of how selecting agents drive change within populations and influence genetic traits, along with a nuanced grasp of related concepts and terminology. This guide is designed to be clear, authoritative, and optimized for those seeking an in-depth explanation of selecting agent definition and its practical relevance.

- Understanding the Selecting Agent Definition
- Role of Selecting Agents in Evolutionary Processes
- Types of Selecting Agents
- Examples of Selecting Agents in Nature
- Selecting Agents in Laboratory and Artificial Environments
- Factors Influencing the Effectiveness of Selecting Agents
- Summary of Key Points

Understanding the Selecting Agent Definition

The selecting agent definition refers to any factor or element that influences which individuals in a population survive and reproduce. In biological terms, a selecting agent is responsible for promoting certain traits over others through the process of selection. Such agents can be environmental, chemical, biological, or even anthropogenic (human-made). Selecting agents act on populations by favoring individuals with advantageous traits, thereby guiding the direction of evolutionary change. This concept is central to understanding natural selection, adaptation, and the development of resistance or specialized features within species.

Recognizing the selecting agent definition is essential for interpreting scientific studies, making informed decisions in research, and appreciating the mechanisms underlying evolutionary biology. The term is frequently used in academic literature, laboratory protocols, and environmental management, serving as a cornerstone for discussions about selective pressure, genetic variation, and adaptation.

Role of Selecting Agents in Evolutionary Processes

Natural Selection and Adaptation

In evolutionary biology, selecting agents are pivotal in shaping the genetic makeup of populations. Natural selection operates when selecting agents, such as predators, climate, or disease, exert pressure on organisms, leading to differential survival and reproduction. Individuals with traits better suited to the selecting agent tend to thrive and pass on their genes, while less adapted individuals are less likely to reproduce.

Genetic Variation and Selective Pressure

Selecting agents contribute to the maintenance or reduction of genetic variation within populations. They create selective pressure, which refers to the intensity with which the selecting agent favors certain traits. High selective pressure can lead to rapid evolutionary changes, while low pressure may result in gradual adaptation over generations.

- Promotes survival of advantageous traits
- Leads to adaptation and evolution
- Influences population genetics
- Can result in speciation

Types of Selecting Agents

Environmental Selecting Agents

Environmental selecting agents include factors such as temperature, water availability, and light intensity. These agents act on populations by favoring individuals with traits that enhance survival in specific environments. For example, drought conditions may select for plants with deep root systems or water-conserving leaves.

Biological Selecting Agents

Biological selecting agents comprise living organisms that influence survival and reproduction. Predators, parasites, competitors, and pathogens are typical examples. In predator-prey relationships, predators serve as selecting agents by preying on individuals lacking protective traits, such as camouflage or speed.

Chemical Selecting Agents

Chemical agents, such as toxins, antibiotics, or pollutants, can act as selecting agents. These substances favor organisms with resistance mechanisms, leading to the development of resistant strains in bacteria, insects, or plants exposed to pesticides or antibiotics.

Anthropogenic Selecting Agents

Human activities often introduce selecting agents into ecosystems. Urbanization, agriculture, hunting, and pollution serve as anthropogenic agents that influence the evolutionary trajectory of many species. For example, the widespread use of antibiotics has become a powerful selecting agent shaping microbial populations.

Examples of Selecting Agents in Nature

Predation as a Selecting Agent

Predators are classic selecting agents in nature, driving prey species to evolve defensive adaptations. For instance, gazelles with faster running speeds are more likely to evade cheetahs, passing on their speed-enhancing genes to future generations.

Climate and Weather Conditions

Extreme temperatures, rainfall patterns, and seasonal changes act as selecting agents. Polar bears, for example, have evolved thick fur and fat layers to survive cold climates, a direct result of selection by harsh environmental conditions.

Disease and Parasitism

Disease-causing organisms and parasites select for host individuals with strong immune systems or resistance genes. The prevalence of sickle cell trait in certain human populations is an adaptation to malaria, a powerful selecting agent in those regions.

1. Predators influencing prey adaptations
2. Climate selecting for heat or cold tolerance
3. Disease shaping immune system responses
4. Competition for resources
5. Human-induced pollution and habitat changes

Selecting Agents in Laboratory and Artificial Environments

Laboratory Selection Experiments

Researchers frequently use selecting agents in controlled laboratory settings to study evolutionary processes. For example, scientists might expose bacteria to antibiotics, acting as a selecting agent to observe the development of resistance. These experiments help elucidate the mechanisms of selection and provide insights into combating resistance.

Artificial Selection in Agriculture

In agriculture, breeders serve as selecting agents by choosing plants and animals with desirable traits for reproduction. This artificial selection accelerates the development of crops and livestock with enhanced yield, disease resistance, or specific physical characteristics.

Applications in Biotechnology

Biotechnologists use chemical and biological selecting agents to isolate genetically modified organisms or cell lines. Selective media containing antibiotics or nutrients ensure that only organisms carrying desired genetic traits survive, streamlining research and production processes.

Factors Influencing the Effectiveness of Selecting Agents

Intensity of Selective Pressure

The strength with which a selecting agent acts on a population determines the rate and direction of evolutionary change. Strong selective pressure can result in rapid adaptation, while weak pressure may lead to gradual shifts over time.

Genetic Diversity of the Population

Populations with greater genetic variation are better able to respond to selecting agents, as more individuals may possess advantageous traits. Low genetic diversity can make populations vulnerable to extinction if the selecting agent is too intense.

Environmental Stability

Stable environments tend to favor consistent selection, while fluctuating conditions may result in changing selective pressures and dynamic evolutionary responses.

- Strength of selection

- Population size and genetic diversity
- Environmental variability
- Presence of competing agents
- Human intervention

Summary of Key Points

Selecting agent definition encapsulates the concept of any factor promoting specific traits within a population through survival and reproduction. Selecting agents are fundamental to natural selection, shaping the course of evolution and adaptation. They can be environmental, biological, chemical, or anthropogenic, acting in both natural ecosystems and controlled laboratory environments. Understanding how selecting agents operate is essential for interpreting evolutionary patterns, managing resistance, and guiding artificial selection in agriculture and biotechnology. The effectiveness of selecting agents depends on factors like selective pressure, genetic diversity, and environmental stability, making them a central concept in modern science and practical applications.

Q: What is the selecting agent definition in biology?

A: In biology, the selecting agent definition refers to any environmental, chemical, biological, or anthropogenic factor that influences which individuals in a population survive and reproduce, thereby guiding the process of natural selection.

Q: Can humans act as selecting agents?

A: Yes, humans can be selecting agents through activities like selective breeding, urbanization, pollution, and habitat modification, all of which influence the traits and survival of various species.

Q: What are natural selecting agents?

A: Natural selecting agents include environmental factors such as climate, predators, disease, and competition that naturally exert selective pressure on populations, leading to adaptation and evolution.

Q: How do selecting agents influence genetic variation?

A: Selecting agents can reduce or maintain genetic variation by favoring individuals with specific traits, which may lead to increased frequency of those traits in the gene pool over time.

Q: Why are selecting agents important in laboratory research?

A: Selecting agents are crucial in laboratory research for studying evolutionary processes, isolating desired genetic traits, and developing resistant strains, particularly in microbiology and biotechnology.

Q: What is the difference between natural and artificial selecting agents?

A: Natural selecting agents occur without human intervention and include predators, climate, and disease, while artificial selecting agents are introduced by humans, such as selective breeding and chemical treatments.

Q: Can selecting agents lead to the development of new species?

A: Yes, strong and persistent selecting agents can drive genetic divergence and adaptation, potentially leading to speciation over time.

Q: How do antibiotics act as selecting agents?

A: Antibiotics act as chemical selecting agents by favoring bacteria with resistance genes, leading to the evolution and spread of antibiotic-resistant strains.

Q: What factors affect the strength of a selecting agent?

A: The strength of a selecting agent is affected by selective pressure, population size, genetic diversity, environmental conditions, and the presence of competing agents.

Q: Are selecting agents always beneficial?

A: Selecting agents are not inherently beneficial or harmful; they simply influence the direction of evolution by favoring certain traits. The outcome depends on the specific context and traits involved.

Selecting Agent Definition

Selecting Agent Definition: Understanding the Driving Force of Evolution

Evolution, the grand tapestry of life's unfolding story, isn't a random process. It's shaped by a powerful force: the selecting agent. This blog post delves into the precise definition of a selecting agent, exploring its role in natural selection and offering clear examples to solidify your understanding. We'll unpack the concept, differentiate it from other evolutionary pressures, and clarify its significance in shaping the biodiversity we see today. Get ready to unravel the mysteries behind this crucial element of evolutionary biology.

What is a Selecting Agent? A Precise Definition

At its core, a selecting agent is any environmental factor or pressure that differentially affects the survival and reproductive success of individuals within a population based on their traits. In simpler terms, it's the thing that "selects" which individuals are more likely to pass on their genes to the next generation. This selection isn't conscious; it's a consequence of the interaction between an organism's characteristics and its environment. A selecting agent creates a selective pressure, favoring certain traits over others.

Types of Selecting Agents

Selecting agents can be broadly classified into biotic and abiotic factors.

Biotic Selecting Agents:

Predators: Predators exert strong selective pressure, favoring traits like speed, camouflage, or defensive mechanisms in prey. Animals with traits that increase their chances of escaping predation are more likely to survive and reproduce.
Competitors: Competition for resources like food, mates, or territory can be a powerful selecting agent. Individuals with traits that enhance their competitive ability are more likely to secure these resources and reproduce successfully. This can lead to character displacement, where competing species evolve distinct traits to minimize competition.
Parasites and Diseases: Parasites and diseases preferentially target individuals with weaker immune systems or other susceptible traits. Individuals with stronger resistance are more likely to survive and pass on their genes.
Mutualistic Partners: Even beneficial relationships can act as selecting agents. For instance, plants might evolve traits that attract specific pollinators, while the pollinators themselves evolve traits to better exploit the plant's resources.

Abiotic Selecting Agents:

Climate: Temperature, rainfall, sunlight, and other climatic factors exert significant selective pressure. Organisms with adaptations that allow them to survive and reproduce in specific climates are favored. This can lead to distinct adaptations in different geographical regions.
Natural Disasters: Events like floods, droughts, wildfires, and earthquakes can drastically alter the environment, favoring individuals with traits that increase their survival chances during or after such events. This can result in rapid evolutionary changes.
Resource Availability: The availability of food, water, shelter, and other essential resources influences which individuals survive and reproduce. Traits that enhance resource acquisition are strongly favored.
Geographic Features: Mountain ranges, rivers, and other geographic barriers can create isolated populations, leading to different selective pressures and potentially the formation of new species through allopatric speciation.

Selecting Agent vs. Other Evolutionary Influences

It's crucial to distinguish a selecting agent from other evolutionary forces. While genetic drift, mutation, and gene flow all contribute to evolutionary change, they don't actively select for specific traits. A selecting agent is the driving force behind adaptive evolution, leading to the development of traits that enhance survival and reproduction in a specific environment.

Understanding Selective Pressure

The concept of selective pressure is intrinsically linked to the selecting agent. Selective pressure describes the intensity of the force exerted by the selecting agent. A strong selective pressure means that the selecting agent significantly impacts the survival and reproduction of individuals within a population, leading to rapid evolutionary change. A weak selective pressure might result in slower or less pronounced changes.

Examples of Selecting Agents in Action

Let's consider some real-world examples to solidify our understanding:

Peppered Moths: During the Industrial Revolution, the darker-colored peppered moths had a selective advantage over their lighter counterparts due to pollution darkening tree bark (the selecting agent). This classic example showcases how a change in the environment can dramatically shift selective pressure.
Antibiotic Resistance: The overuse of antibiotics has created a powerful selective pressure favoring

bacteria with antibiotic-resistant genes. The antibiotic itself acts as the selecting agent, driving the evolution of resistant strains.
Darwin's Finches: The different beak shapes of Darwin's finches are a direct result of the selective pressures exerted by the availability of different food sources (seeds, insects, etc.) on the Galapagos Islands. Each food source acted as a selecting agent, favoring finches with beaks adapted to exploit that specific resource.

Conclusion

The selecting agent is the pivotal force behind natural selection, driving the evolution of life on Earth. Understanding its definition and the diverse ways it operates is fundamental to grasping the mechanisms of evolutionary change. By recognizing the various biotic and abiotic factors that exert selective pressures, we can better appreciate the remarkable diversity and adaptability of life.

FAQs

Q1: Can a single trait be influenced by multiple selecting agents?

A1: Absolutely. A single trait can be simultaneously influenced by multiple selecting agents, leading to complex evolutionary outcomes. For example, a plant's flower color might be influenced by pollinator preferences (biotic) and sunlight availability (abiotic).

Q2: Is artificial selection also driven by a selecting agent?

A2: Yes, artificial selection, where humans select for specific traits in domesticated animals and plants, is also driven by a selecting agent – the human breeder.

Q3: How do we identify the selecting agent in a specific evolutionary scenario?

A3: Identifying the selecting agent often requires careful observation and experimentation. By analyzing the correlation between specific traits and survival/reproductive success in different environments, researchers can infer the role of various factors as selecting agents.

Q4: Can a selecting agent change over time?

A4: Yes, environmental conditions and interactions constantly change, leading to shifts in selective pressures. What was once a strong selecting agent might become less influential, or a new selecting agent might emerge.

Q5: Does the selecting agent always lead to adaptation?

A5: While selecting agents drive adaptation in many cases, it's not always a guaranteed outcome. Genetic drift and other factors can still influence the evolutionary trajectory even in the presence of

a selecting agent.

selecting agent definition: SAP Sudipta Malakar, 2019-09-18 Demystifying ÒSAP Business AutomationÓ and shape tangible use cases that add values to your organisation, Customers & Business DESCRIPTION The book has been written in such a way that the concepts are explained in detail, giving adequate emphasis on examples. To make clarity of the programming examples, logic is explained properly as well discussed using comments in program itself. The book covers the topics right from the start of the software using snapshots of starting the software and writing programs into it. The real-time examples are discussed in detail from simple to complex taking into consideration the requirement of IT consultants. Various sample projects are included in the Book and are written in simple language so as to give IT consultants the basic idea of developing projects in SAP. The examples given in book are user-focused and have been highly updated including topics, figures and examples. The book features more on practical approach with more examples covering topics from simple to complex one addressing many of the core concepts and advance topics also. KEY FEATURES Examples, problem solutions, and tips and tricks for daily practice are given in a simple manner. Learn the Troubleshooting & performance optimization techniques Get to know the Hard coding Ð Categorization & Recommendations SAP Business Workflow Introduction, Terminology, Function Modules and Reports are given in a simple form. WHAT WILL YOU LEARN SAP NetWeaver Gateway Realtime Case Study and demos on workflow for all the major SAP applications Step-by-step instructions for adapting data flows, agent determination, event definitions, and more SAP Workflow upgrade from 4.6 to 6.0 WHO THIS BOOK IS FOR SAP Consultants, SAP technical, Business analysts, Architects, Team Leads, Project Leads, Project Managers, Account Manager, Account Executives, CEO, CTO, COO, CIO, Sr. VP, Directors. Table of Contents 1. Ê Ê SAP Business Workflow Introduction 2. Ê Ê SAP Business Workflow Terminology 3. Ê Ê SAP Workflow with Function Modules & Reports 4. Ê Ê SAP Workflow Review Checklist 5. Ê Ê Demo- SAP Workflow for Credit Memos 6. Ê Ê Demo- SAP Business Workflow Substitution 7. Ê Ê Demo - When a FI Document is Parked then Trigger Custom Workflow 8. Ê Ê Demo - Goods Returns Workflow 9. Ê Ê Demo- Workflow for MRP Purchase RequisitionsÊ 10. Ê Workflow Management System Best Practices 11. Ê Earn Value - OverviewÊ 12. Ê Basic Data Services Using SAP NetWeaver Gateway 2.0 13. Ê SAP NetWeaver Gateway- Transaction Codes Usage and Purpose 14. Ê SAP NetWeaver Gateway Basic Configuration 15. Ê Demo- Workflow Trigger Using HR Tables 16. Ê Demo- Workflow Trigger using Status Management 17. Ê Demo- Leave RequestÊ 18. Ê Demo- Integration of Portal and SAP Workflow 19. Ê Demo- Integration of Workflow with ALE 20. Ê Demo- Attach link in send mail Step of a Workflow 21. Ê Case Study - Advance Workflow Design- Update Sales Document 22. Ê Case Study - SAP Workflow Upgrade from 4.6 to 6.0 23. Ê Quiz Session - SAP Workflow

selecting agent definition: Agent-Oriented Information Systems II Paolo Bresciani, Paolo Giorgini, Brian Henderson-Sellers, Graham Low, Michael Winikoff, 2005-05-10 Information systems have become the backbone of all kinds of organizations - day. In almost every sector – manufacturing, education, health care, government and businesses large and small – information systems are relied upon for - eryday work, communication, information gathering and decision-making. Yet, the in?exibilities in current technologies and methods have also resulted in poor performance, incompatibilities and obstacles to change. As many organizations are reinventing themselves to meet the challenges of global competition and e-commerce, there is increasing pressure to develop and deploy new technologies that are ?exible, robust and responsive to rapid and unexpected change. Agent concepts hold great promise for responding to the new realities of - formation systems. They o?er higher-level abstractions and mechanisms which address issues such as knowledge representation and reasoning, communication, coordination, cooperation among heterogeneous and autonomous parties, p- ception, commitments, goals, beliefs, intentions, etc., all of which need conc- tual modelling. On the one hand, the concrete implementation of these concepts

can lead to advanced functionalities, e.g., in inference-based query answering, transaction control, adaptive work ?ows, brokering and integration of disparate information sources, and automated communication processes. On the other hand, their rich representational capabilities allow for more faithful and ?- ible treatments of complex organizational processes, leading to more e?ective requirements analysis and architectural/detailed design.

selecting agent definition: Agent Communication II Frank Dignum, Rogier van Eijk, Roberto Flores, 2008-08-19 This book constitutes the thoroughly refereed post-proceedings of the two International Workshops on Agent Communication, AC 2005 and AC 2006, held in Utrecht, Netherlands in July 2005 and in Hakodate, Japan in May 2006 as associated events of AAMAS 2005/2006. The 20 revised full papers cover semantics of agent communication, commitments in agent communication, protocols and strategies, as well as reliability and overhearing.

selecting agent definition: Languages, Methodologies and Development Tools for Multi-Agent Systems Mehdi Dastani, 2008-07-18 This book constitutes the thoroughly refereed post-workshop proceedings of the First International Workshop on Languages, Methodologies and Development Tools for Multi-Agent Systems, LADS 2007, held in Durham, UK, in September 2007. The workshop was part of MALLOW 2007, a federation of workshops on Multi-Agent Logics, Languages, and Organizations. The 15 revised full papers, presented together with 1 invited paper reporting the aims and achievements of the OpenKnowledge project, were carefully reviewed and selected from 32 submissions. The papers are organized in topical sections on agent reasoning and semantics, declarative languages and technologies, methodologies and design, and development frameworks.

selecting agent definition: *Agent, Person, Subject, Self* Paul Kockelman, 2013 This book offers both a naturalistic and critical theory of signs, minds, and meaning-in-the-world. It provides a reconstructive rather than deconstructive theory of the individual, one which both analytically separates and theoretically synthesizes a range of faculties that are often confused and conflated: agency (understood as a causal capacity), subjectivity (understood as a representational capacity), selfhood (understood as a reflexive capacity), and personhood (understood as a sociopolitical capacity attendant on being an agent, subject, or self). It argues that these facilities are best understood from a semiotic stance that supersedes the usual intentional stance. And, in so doing, it offers a pragmatism-grounded approach to meaning and mediation that is general enough to account for processes that are as embodied and embedded as they are articulated and enminded. In particular, while this theory is focused on human-specific modes of meaning, it also offers a general theory of meaning, such that the agents, subjects and selves in question need not always, or even usually, map onto persons. And while this theory foregrounds agents, persons, subjects and selves, it does this by theorizing processes that often remain in the background of such (often erroneously) individuated figures: ontologies (akin to culture, but generalized across agentive collectivities), interaction (not only between people, but also between people and things, and anything outside or in-between), and infrastructure (akin to context, but generalized to include mediation at any degree of remove).

selecting agent definition: Agents and Artificial Intelligence Joaquim Filipe, Ana Fred, 2014-10-30 This book constitutes the thoroughly refereed post-conference proceedings of the 5th International Conference on Agents and Artificial Intelligence, ICAART 2013, held in Barcelona, Spain, in February 2013. The 20 revised full papers presented together with one invited paper were carefully reviewed and selected from 269 submissions. The papers are organized in two topical sections on artificial intelligence and on agents.

selecting agent definition: People and Computers VIII J. L. Alty, D. Diaper, S. Guest, 1993-10-07 Human Computer Interaction (HCI) is concerned with every aspect of the relationship between computers and people (individuals, groups and society). The annual meeting of the British Computer Society's HCI group is recognised as one of the main venues for discussing recent trends and issues. This volume contains refereed papers and reports at the 1993 meeting. A broad range of HCI related topics are covered, including user interface design, user modelling, tools, hypertext,

CSCW, and programming. Both research and commercial perspectives are considered, making the book essential for all researchers, designers and manufacturers who need to keep abreast of developments in HCI.

selecting agent definition: A Selection of Acts for the Use of the Metropolitan Police ... Arthur John Wood, 1862

selecting agent definition: *Computational Logic in Multi-Agent Systems* Katsumi Inoue, 2007-01-12 This book constitutes the thoroughly refereed post-proceedings of the 7th International Workshop on Computational Logic for Multi-Agent Systems, CLIMA VII, held in Hakodate, Japan, in May 2006. It was an associated event of AAMAS 2006, the main international conference on autonomous agents and multi-agent systems. The series of workshops presents current work on application of general and declarative theories.

selecting agent definition: Standards of Eligibility and Selection for Junior Enrollees of United States. Department of Labor, 1938

selecting agent definition: Argumentation in Multi-Agent Systems Iyad Rahwan, Simon D. Parsons, Chris Reed, 2008-04-12 Here are the latest developments in the growing area of research at the interface of argumentation theory and multiagent systems. Argumentation provides tools for designing, implementing and analyzing sophisticated forms of interaction among rational agents.

selecting agent definition: Business Process Management Chiara Di Francescomarino, Andrea Burattin, Christian Janiesch, Shazia Sadiq, 2023-08-31 This book constitutes the refereed proceedings of the 21st International Conference on Business Process Management, BPM 2023, which took place in Utrecht, The Netherlands, in September 2023. The 27 papers included in this book were carefully reviewed and selected from 151 submissions. They were organized in three main research tracks: Foundations, engineering, and management.

selecting agent definition: *A Selection of Leading Cases on Various Branches of the Law* John William Smith, 1915

selecting agent definition: Multi-Agent Systems for Healthcare Simulation and Modeling: Applications for System Improvement Paranjape, Raman, Sadanand, Asha, 2009-08-31 This book provides theoretical frameworks and the latest empirical research findings used by medical professionals in the implementation of multi-agent systems--Provided by publisher.

selecting agent definition: *Programming Languages and Systems* Matthias Felleisen, Philippa Gardner, 2013-03-02 This book constitutes the refereed proceedings of the 22nd European Symposium on Programming, ESOP 2013, held as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2013, which took place in Rome, Italy, in March 2013. The 31 papers, presented together with a full-length invited talk, were carefully reviewed and selected from 120 full submissions. The contributions have been organized according to ten topical sections on programming techniques; programming tools; separation logic; gradual typing; shared-memory concurrency and verification; process calculi; taming concurrency; model checking and verification; weak-memory concurrency and verification; and types, inference, and analysis.

selecting agent definition: Evolution's Eye Susan Oyama, 2000-05-03 In recent decades, Susan Oyama and her colleagues in the burgeoning field of developmental systems theory have rejected the determinism inherent in the nature/nurture debate, arguing that behavior cannot be reduced to distinct biological or environmental causes. In Evolution’s Eye Oyama elaborates on her pioneering work on developmental systems by spelling out that work’s implications for the fields of evolutionary theory, developmental and social psychology, feminism, and epistemology. Her approach profoundly alters our understanding of the biological processes of development and evolution and the interrelationships between them. While acknowledging that, in an uncertain world, it is easy to “blame it on the genes,” Oyama claims that the renewed trend toward genetic determinism colors the way we think about everything from human evolution to sexual orientation and personal responsibility. She presents instead a view that focuses on how a wide variety of developmental factors interact in the multileveled developmental systems that give rise to organisms. Shifting attention away from genes and the environment as causes for behavior, she

convincingly shows the benefits that come from thinking about life processes in terms of developmental systems that produce, sustain, and change living beings over both developmental and evolutionary time. Providing a genuine alternative to genetic and environmental determinism, as well as to unsuccessful compromises with which others have tried to replace them, Evolution's Eye will fascinate students and scholars who work in the fields of evolution, psychology, human biology, and philosophy of science. Feminists and others who seek a more complex view of human nature will find her work especially congenial.

selecting agent definition: Encyclopedia of Software Engineering Three-Volume Set (Print) Phillip A. Laplante, 2010-11-22 Software engineering requires specialized knowledge of a broad spectrum of topics, including the construction of software and the platforms, applications, and environments in which the software operates as well as an understanding of the people who build and use the software. Offering an authoritative perspective, the two volumes of the Encyclopedia of Software Engineering cover the entire multidisciplinary scope of this important field. More than 200 expert contributors and reviewers from industry and academia across 21 countries provide easy-to-read entries that cover software requirements, design, construction, testing, maintenance, configuration management, quality control, and software engineering management tools and methods. Editor Phillip A. Laplante uses the most universally recognized definition of the areas of relevance to software engineering, the Software Engineering Body of Knowledge (SWEBOK®), as a template for organizing the material. Also available in an electronic format, this encyclopedia supplies software engineering students, IT professionals, researchers, managers, and scholars with unrivaled coverage of the topics that encompass this ever-changing field. Also Available Online This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for researchers, students, and librarians, including: Citation tracking and alerts Active reference linking Saved searches and marked lists HTML and PDF format options Contact Taylor and Francis for more information or to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367; (E-mail) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062; (E-mail) online.sales@tandf.co.uk

selecting agent definition: Challenges in Information Technology Management Man-Chung Chan, Ronnie Cheung, James N. K. Liu, 2008 This volume contains some research papers from the International Conference on Information Technology and Management organized by the Hong Kong Polytechnic University, in conjunction with the Institute of Systems Management (ISM). It comprises 30 selected and refereed papers in the development of enabling technologies, electronic commerce and knowledge management, and IT systems and applications. These papers feature the results of the latest research in the areas of information systems, enabling technologies, and business management, as well as potential applications in industries including education, finance, logistics, medical tourism, and IT services.

selecting agent definition: *Challenges In Information Technology Management - Proceedings Of The International Conference* James Nga Kwok Liu, Ronnie Chu Ting Cheung, Man-chung Chan, 2008-05-14 This volume contains some research papers from the International Conference on Information Technology and Management organized by the Hong Kong Polytechnic University, in conjunction with the Institute of Systems Management (ISM). It comprises 30 selected and refereed papers in the development of enabling technologies, electronic commerce and knowledge management, and IT systems and applications. These papers feature the results of the latest research in the areas of information systems, enabling technologies, and business management, as well as potential applications in industries including education, finance, logistics, medical tourism, and IT services.

selecting agent definition: *Miscellaneous Publication* , 1952

selecting agent definition: Agent-Oriented Software Engineering V James Odell, Paolo Giorgini, Jörg, P. Müller, 2005-01-24 The explosive growth of application areas such as electronic commerce, ent- prise resource planning and mobile computing has profoundly and irreversibly changed our views on software systems. Nowadays, software is to be based on open architectures

that continuously change and evolve to accommodate new components and meet new requirements. Software must also operate on di?- ent platforms, without recompilation, and with minimal assumptions about its operating environment and its users. Furthermore, software must be robust and¨ autonomous, capable of serving a naive user with a minimum of overhead and interference. Agent concepts hold great promise for responding to the new realities of software systems. They o?er higher-level abstractions and mechanisms which address issues such as knowledge representation and reasoning, communication, coordination, cooperation among heterogeneous and autonomous parties, p- ception, commitments, goals, beliefs, and intentions, all of which need conceptual modelling. On the one hand, the concrete implementation of these concepts can lead to advanced functionalities, e.g., in inference-based query answering, tra- action control, adaptive work?ows, brokering and integration of disparate inf- mation sources, and automated communication processes. On the other hand, their rich representational capabilities allow more faithful and ?exible treatments of complex organizational processes, leading to more e?ective requirements an- ysis and architectural/detailed design.

selecting agent definition: *Web Engineering* Tommi Mikkonen, Ralf Klamma, Juan Hernández, 2018-05-24 This book constitutes the refereed proceedings of the 18th International Conference on Web Engineering, ICWE 2018, held in Cáceres, Spain, in June 2018. The 18 full research papers and 17 short papers presented together with 2 practice papers, 6 demonstration papers, and 5 tutorials were carefully reviewed and selected from 103 submissions. The papers cover research areas such as Web application modeling and engineering; Web infrastructures and architectures; execution models; human computation and crowdsourcing applications; Web application composition and mashups; Social Web applications; Semantic Web applications; Web of Things applications; big data and data analytics; and security, privacy, and identity.

selecting agent definition: Agent and Multi-Agent Systems: Technologies and Applications Adam Grzech, 2007-07-07 This book constitutes the refereed proceedings of the First International Symposium on Agent and Multi-Agent Systems: Technologies and Applications, KES-AMSTA 2007, held in Wroclaw, Poland in May/June 2007. Coverage includes agent-oriented Web applications, mobility aspects of agent systems, agents for network management, agent approaches to robotic systems, as well as intelligent and secure agents for digital content management.

selecting agent definition: The National Poultry Improvement Plan , 1938

selecting agent definition: ECAI 2006 Gerhard Brewka, 2006

selecting agent definition: *Environments for Multi-Agent Systems III* Danny Weyns, 2007-02-28 This book constitutes the thoroughly refereed post-proceedings of the Third International Workshop on Environments for Multiagent Systems, E4MAS 2006, held in Hakodate, Japan in May 2006 as an associated event of AAMAS 2006, the 5th International Joint Conference on Autonomous Agents and Multiagent Systems. The 15 revised papers presented were carefully reviewed and selected from the lectures given at the workshop completed by a number of invited papers of prominent researchers active in the domain. The papers are organized in topical sections on models, architecture, and design, mediated inte.

selecting agent definition: A Selection of Cases on the Sale of Goods John Delatre Falconbridge, 1927

selecting agent definition: American Stationer and Office Manager , 1922

selecting agent definition: *The American Stationer and Office Outfitter* , 1922

selecting agent definition: *Algorithmic Game Theory* Ioannis Caragiannis, Kristoffer Arnsfelt Hansen, 2021-09-14 This book constitutes the refereed proceedings of the 14th International Symposium on Algorithmic Game Theory, SAGT 2021, held in Aarhus, Denmark in September 2021. The 26 full papers presented together with 4 abstract papers were carefully reviewed and selected from 73 submissions. In addition, the volume contains abstracts from 3 invited talks and 2 tutorial talks. The papers are organized in topical sections named: auctions and mechanism design, computational aspects of games, markets and matchings, and social choice and cooperative games.

selecting agent definition: Intelligent Multimedia Multi-Agent Systems Rajiv Khosla, Ishwar K.

Sethi, Ernesto Damiani, 2013-03-09 Intelligent Multimedia Multi-Agent Systems focuses on building intelligent successful systems. The book adopts a human-centered approach and considers various pragmatic issues and problems in areas like intelligent systems, software engineering, multimedia databases, electronic commerce, data mining, enterprise modeling and human-computer interaction for developing a human-centered virtual machine. The authors describe an ontology of the human-centered virtual machine which includes four components: activity-centered analysis component, problem solving adapter component, transformation agent component, and multimedia based interpretation component. These four components capture the external and internal planes of the system development spectrum. They integrate the physical, social and organizational reality on the external plane with stakeholder goals, tasks and incentives, and organization culture on the internal plane. The human-centered virtual machine and its four components are used for developing intelligent multimedia multi-agent systems in areas like medical decision support and health informatics, medical image retrieval, e-commerce, face detection and annotation, internet games and sales recruitment. The applications in these areas help to expound various aspects of the human-centered virtual machine including, human-centered domain modeling, distributed intelligence and communication, perceptual and cognitive task modeling, component based software development, and multimedia based data modeling. Further, the applications described in the book employ various intelligent technologies like neural networks, fuzzy logic and knowledge based systems, software engineering artifacts like agents and objects, internet technologies like XML and multimedia artifacts like image, audio, video and text.

selecting agent definition: Conflicting Agents Cathérine Tessier, Laurent Chaudron, Heinz-Jürgen Müller, 2005-12-27 Conflicts between agents acting in a multi-agent environment arise for different reasons, involve different concepts, and are dealt with in different ways, depending on the kind of agents and on the domain where they are considered. Agents may have conflicting beliefs, conflicting goals, or may have to share limited resources. Consequently, conflicts may be expressed as mere differences, or as contradictions, or even as social conflicts. They may be avoided, solved, kept, or even created deliberately. Conflicting Agents studies conflicts in the context of multi-agent systems, i.e. artificial societies modeled on the basis of autonomous, interacting agents. This book addresses questions about types of conflicts, conflict definitions and the use of conflicts as trigger functions for activities in multi-agent systems. The book is also dedicated to questions of conflict management, resolution and avoidance, i.e. the question of how agents cope with conflicts and conflicting situations.

selecting agent definition: Darwinian Archaeologies Herbert D.G. Maschner, 2013-06-29 Just over 20 years ago the publication of two books indicated the reemergence of Darwinian ideas on the public stage. E. O. Wilson's Sociobiology: The New Synthesis and Richard Dawkins' The Selfish Gene, spelt out and developed the implications of ideas that had been quietly revolutionizing biology for some time. Most controversial of all, needless to say, was the suggestion that such ideas had implications for human behavior in general and social behavior in particular. Nowhere was the outcry greater than in the field of anthropology, for anthropologists saw themselves as the witnesses and defenders of human di versity and plasticity in the face of what they regarded as a biological determin ism supporting a right-wing racist and sexist political agenda. Indeed, how could a discipline inheriting the social and cultural determinisms of Boas, Whorf, and Durkheim do anything else? Life for those who ventured to chal lenge this orthodoxy was not always easy. In the mid-l990s such views are still widely held and these two strands of anthropology have tended to go their own way, happily not talking to one another. Nevertheless, in the intervening years Darwinian ideas have gradually begun to encroach on the cultural landscape in variety of ways, and topics that had not been linked together since the mid-19th century have once again come to be seen as connected. Modern genetics turns out to be of great sig nificance in understanding the history of humanity.

selecting agent definition: Verification and Evaluation of Computer and Communication Systems Ayoub Nouri, Weimin Wu, Kamel Barkaoui, ZhiWu Li, 2022-03-18 This book constitutes the proceedings of the 15th International Conference on Verification and Evaluation of Computer and

Communication Systems, VECoS 2021, which took place in November 2021. Due to COVID-19 pandemic the conference was held virtually. The 5 full papers presented in this volume were carefully reviewed and selected from 12 submissions. The aim of the VECoS conference is to bring together researchers and practitioners in the areas of verification, control, performance, and dependability evaluation in order to discuss state of the art and challenges in modern computer and communication systems in which functional and extra-functional properties are strongly interrelated. Thus, the main motivation for VECoS is to encourage the cross-fertilization between various formal verification and evaluation approaches, methods and techniques, and especially those developed for concurrent and distributed hardware/software systems.

selecting agent definition: Multiagent Engineering Stefan Kirn, Otthein Herzog, Peter Lockemann, Otto Spaniol, 2006-08-10 This book gives detailed descriptions of the development of two large scale multiagent systems: Agent.Hospital and Agent.Enterprise. These two systems have been developed in close cooperation with more than 20 enterprises and hospitals. They demonstrate clearly that multiagent technology has a great potential for innovative information systems, if a high degree of flexibility of the overall systems is required, e.g. because human actors and technical systems exhibit a great degree of local autonomy, or if the work environment is highly dynamic.

selecting agent definition: ECAI 2012 C. Bessiere, 2012-08-15 Artificial intelligence (AI) plays a vital part in the continued development of computer science and informatics. The AI applications employed in fields such as medicine, economics, linguistics, philosophy, psychology and logical analysis, not forgetting industry, are now indispensable for the effective functioning of a multitude of systems. This book presents the papers from the 20th biennial European Conference on Artificial Intelligence, ECAI 2012, held in Montpellier, France, in August 2012. The ECAI conference remains Europe's principal opportunity for researchers and practitioners of Artificial Intelligence to gather and to discuss the latest trends and challenges in all subfields of AI, as well as to demonstrate innovative applications and uses of advanced AI technology. ECAI 2012 featured four keynote speakers, an extensive workshop program, seven invited tutorials and the new Frontiers of Artificial Intelligence track, in which six invited speakers delivered perspective talks on particularly interesting new research results, directions and trends in Artificial Intelligence or in one of its related fields. The proceedings of PAIS 2012 and the System Demonstrations Track are also included in this volume, which will be of interest to all those wishing to keep abreast of the latest developments in the field of AI.

selecting agent definition: Argumentation in Multi-Agent Systems Peter McBurney, Iyad Rahwan, Simon D. Parsons, 2011-06-24 This book constitutes the thoroughly reviewed post-proceedings of the 7th International Workshop on Argumentation in Multi-Agent Systems, ArgMas 2010, held in Toronto, Canada in May 2010 as a satellite workshop of AAMAS 2010. The 14 revised full papers taken from ArgMAS 2010 were carefully reviewed and improved during two rounds of revision. Also included are 4 invited papers based on presentations on argumentation at the AAMAS 2010 main conference. All together the 18 papers included in the book give a representative overview on current research on argumentation in multi-agent systems. The papers are organized in topical sections on practical reasoning and argument about action, applications, and theoretical aspects.

selecting agent definition: *Cooperative Information Agents X* Matthias Klusch, Michael Rovatsos, Terry R. Payne, 2006-08-30 This book constitutes the refereed proceedings of the 10th International Workshop on Cooperative Information Agents, CIA 2006, held in Edinburgh, UK in September 2006. The 29 revised full papers presented together with four invited papers were carefully reviewed and selected from 58 submissions. The papers are organized in topical sections.

selecting agent definition: Algorithmic Decision Theory Jörg Rothe, 2017-10-13 This book constitutes the conference proceedings of the 5th International Conference on Algorithmic Decision Theory , ADT 2017, held in Luxembourg, in October 2017.The 22 full papers presented together with 6 short papers, 4 keynote abstracts, and 6 Doctoral Consortium papers, were carefully selected from 45 submissions. The papers are organized in topical sections on preferences and multi-criteria

decision aiding; decision making and voting; game theory and decision theory; and allocation and matching.

selecting agent definition: *7th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS'09)* Yves Demazeau, Juan Pavón, Juan Manuel Corchado Rodríguez, Javier Bajo, 2009-03-08 PAAMS, the International Conference on Practical Applications of Agents and Multi-Agent Systems is an evolution of the International Workshop on Practical Applications of Agents and Multi-Agent Systems. PAAMS is an international yearly tribune to present, to discuss, and to disseminate the latest developments and the most important outcomes related to real-world applications. It provides a unique opportunity to bring multi-disciplinary experts, academics and practitioners together to exchange their experience in the development of Agents and Multi-Agent Systems. This volume presents the papers that have been accepted for the 2009 edition. These articles capture the most innovative results and this year’s trends: Assisted Cognition, E-Commerce, Grid Computing, Human Modelling, Information Systems, Knowledge Management, Agent-Based Simulation, Software Development, Transports, Trust and Security. Each paper has been reviewed by three different reviewers, from an international committee composed of 64 members from 20 different countries. From the 92 submissions received, 35 were selected for full presentation at the conference, and 26 were accepted as posters.