

La Technique Et La Science Comme Id Ologie

[#science and ideology](#) [#technology ideology](#) [#philosophy of science](#) [#societal impact of technology](#) [#science belief systems](#)

Explore the profound concept of science and technology not merely as tools or disciplines, but as a pervasive ideology shaping our modern world. This perspective delves into how scientific methods and technological advancements influence societal beliefs, political structures, and individual worldviews, examining the philosophy of science and the broader societal impact of technology on human thought and culture.

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La technique et la science comme idéologie

La 4e de couverture indique : "La technique et la science constituent désormais les forces productives les plus importantes des sociétés développées. Cette situation nouvelle pose le problème de leur relation avec la pratique sociale, telle qu'elle doit s'exercer dans un monde où l'information est elle-même un produit de la technique. Jürgen Habermas examine dans les études réunies dans ce volume l'incidence de la rationalité scientifique sur le «monde social vécu» et ses répercussions sur le fonctionnement de la démocratie. Il montre les limites de la technocratie qui tend à s'abriter derrière une pseudo-rationalité pour assurer le triomphe de ses intérêts. Il analyse le système des valeurs en cours, les finalités que se propose le corps social sans toujours en avoir conscience, la fonction des idéologies qui les systématisent. Du même coup il est ici abordé une des plus grandes questions de notre temps : comment le consensus social que postule la démocratie peut-il s'opérer dans les sociétés industrielles avancées ?"

La technique et la science comme ideologie

Parcours, c'est en deux volumes une trentaine de textes de Jürgen Habermas, inédits pour la plupart, devenus introuvables en langue française pour les autres. Ils balisent l'évolution d'un des derniers philosophes contemporains de stature mondiale. Le premier volume permet de comprendre comment Habermas, ancré dans la théorie critique de l'École de Francfort, justifie, dans le prolongement de sa Théorie de l'agir communicationnel, la nécessité de passer d'une théorie de la conscience à une théorie du langage. À l'heure de la philosophie postmétaphysique, cette ouverture au langage fait de l'activité communicationnelle le fondement de la société : elle est ce qui permet la compréhension intersubjective, seule à même de définir pour le monde vécu les normes sociales, les valeurs éthiques et les procédures de la politique délibérative. Le tome deuxième élargit encore cette réflexion au thème des conditions de possibilité de la souveraineté populaire, à l'heure de la constitution de l'Europe, mais aussi de la revitalisation politique de la religion. Le lecteur dispose avec cet ouvrage des clefs nécessaires à la compréhension d'une pensée essentielle de notre siècle.

La technique et la science comme idéologie

L'ouvrage prend son point de départ dans la controverse Habermas-Heidegger qui a cristallisé les termes principaux du débat de la modernité avec elle-même : revisiter l'héritage des Lumières pour en réactiver les possibilités inemployées ou prendre congé de celui-ci en vue d'un tout autre commencement de la pensée. Éclairée par la magistrale logique de la philosophie d'Eric Weil et son analyse de la société moderne, une relecture attentive de ces deux grandes oeuvres entend faire apparaître la possibilité d'un dialogue fécond si on lit en contrepoint leurs analyses respectives du complexe techno-scientifique.

Parcours (Tome 2) - (1990-2017). Théorie de la rationalité - Théorie du langage

Recueil de textes de sociologie contemporaine et de psychologie sociale en France, en Allemagne, aux États-Unis, au Québec, depuis les années 60. Importante bibliographie et biographie de nombreux socio-psychologues.

Penser la modernité

Face aux progrès des biosciences, au développement des biotechnologies, au déchiffrement du génome, le philosophe ne peut plus se contenter des déplorations sur l'homme dominé par la technique. Les réalités sont là, qui exigent de lui qu'il les pense à bras-le-corps. Désormais, la réponse que l'éthique occidentale apportait à la vieille question "Quelle vie faut-il mener ?" : "pouvoir être soi-même"

Sociologie-psychologie sociale

>Le monde entier est perclus d'injustices sociales criantes. Nécessité donc d'intervention sociale collective, de mouvements sociaux de revendications, de zones de conflit entre le monde communautaire et l'État. Prévention de conditions de risque, alphabétisation, rationalités divergentes, féminisme, travail social international. Accommodements raisonnables, fracture numérique, investigation scientifique chez les travailleuses du sexe. Tel est le menu que propose la collection « Problèmes sociaux et interventions sociales » dans ce tome IV de Problèmes sociaux.

L'avenir de la nature humaine. Vers un eugénisme libéral ?

Dans L'espace public (1962) Jürgen Habermas montrait comment à partir du XVIIIe siècle le principe de Publicité avait défini un nouvel espace politique au sein duquel s'opérait une médiation entre la société et l'État, sous la forme d'une "opinion publique" qui visait à transformer la nature de la domination. À travers les discussions publiques ayant pour objet des questions d'intérêt général, l'autorité politique était soumise au tribunal d'une critique rationnelle. Mais bientôt, à l'heure des démocraties de masse, Habermas constatait (en 1990) que l'interpénétration des domaines privé et public conduisait à une manipulation de la Publicité par des groupes d'intérêts et à un singulier désamorçage de ses fonctions critiques subverties en un principe d'intégration. Aujourd'hui, Habermas radicalise son analyse. Les réseaux sociaux effacent pour certains de leurs utilisateurs la délimitation constitutive entre sphère privée et sphère publique : chacun peut parler individuellement comme auteur d'une parole publique. Si dans l'espace public traditionnel, il fallait, pour devenir un tel auteur, se soumettre à la médiation des

médias qui mesuraient la vérité, la rationalité et la cohérence logique de la parole, avec les réseaux sociaux la position d'auteur est immédiatement acquise pour chacun. Cette publicité immédiate de la parole intime et privée conduit à l'érosion des critères de rationalité. "Maintenir une structure médiatique permettant à l'espace public de rester un espace inclusif et permettant à la formation de l'opinion et de la volonté publiques de conserver son caractère délibératif ne relève donc absolument pas du simple choix politique : il s'agit d'un impératif proprement constitutionnel."

Problèmes Sociaux Tome IV

Parcours, c'est en deux volumes une trentaine de textes de Jürgen Habermas, inédits pour la plupart, devenus introuvables en langue française pour les autres. Ils balisent l'évolution d'un des derniers philosophes contemporains de stature mondiale. Le premier volume permet de comprendre comment Habermas, ancré dans la théorie critique de l'École de Francfort, justifie, dans le prolongement de sa Théorie de l'agir communicationnel, la nécessité de passer d'une théorie de la conscience à une théorie du langage. À l'heure de la philosophie postmétaphysique, cette ouverture au langage fait de l'activité communicationnelle le fondement de la société : elle est ce qui permet la compréhension intersubjective, seule à même de définir pour le monde vécu les normes sociales, les valeurs éthiques et les procédures de la politique délibérative. Le tome deuxième élargit encore cette réflexion au thème des conditions de possibilité de la souveraineté populaire, à l'heure de la constitution de l'Europe, mais aussi de la revitalisation politique de la religion. Le lecteur dispose avec cet ouvrage des clefs nécessaires à la compréhension d'une pensée essentielle de notre siècle.

Espace public et démocratie délibérative : un tournant

Over the course of the late-twentieth century Basil Bernstein pioneered an original approach to educational phenomena, taking seriously questions regarding the transmission, distribution and transformation of knowledge as no other before had done. Arguing tirelessly for change, more than any other British sociologist it is Bernstein who presents to us education as a social right and not as a privilege. It is this objective today that makes his work so important. Knowledge, Pedagogy and Society seeks to clarify the broad brushstrokes of his theories, developed over the span of more than forty years, by collecting together scholars from every corner of the globe; specialists in education, sociology and epistemology to test and examine Bernstein's work against the backdrop of their own research. From teaching content and the social, cognitive and linguistic aspects of education, to changes in the political climate in the early twenty-first century, this collection represents an open dialogue with Bernstein's work using a forward-looking and dynamic approach. Originally published in French with the explicit aim of locating Basil Bernstein's theories alongside those of Pierre Bourdieu, one of the most important European sociologists, the French editors draw together a collection that offers a diverse background and perspective on Bernstein's work and thought. Revised to include a new preface, a new introduction and revisited papers, the English edition will be a relevant resource for anyone interested in Bernstein, his reception and importance, as well as individuals working in the sociology of education, theory of education and education policy.

Parcours (Tome 1) - (1971-1989). Sociologie et théorie du langage - Pensée postmétaphysique

Provides an overview of changes in relationship to work, their intergenerational meanings, and corrections with other social issues. Offers six complementary perspectives based on national contributions, and develops a policy perspective.

Knowledge, Pedagogy and Society

The international trade negotiations that were launched throughout Latin America in the 1990s created significant challenges for developing countries because of their complexity. In order to make informed decisions and successfully legitimize negotiating positions, governments and stakeholders required research, evidence and data from knowledgeable sources such as local technicians and academics. This book provides empirical-based analyses on the role of this research in the policymaking process. Each case study is based on primary fieldwork - either at the national or sectoral level - which was guided by the following overarching questions: Who are the main actors producing useful research for trade policymakers? Who are the main financial supporters of such work? What use do policymakers give to research? The volume offers a deep analysis of the nexus and interactions between the academic and public spheres, among researchers and decision-makers. Contributors also address the main obstacles for creating a virtuous circle between research and decision-making as they examine

the links between the research centers, think tanks and international organizations who produced the information and the Latin American governments who used it.

Generations at Work and Social Cohesion in Europe

Proceedings of the Conference on Legal Theory and Philosophy of Science, Lund, Sweden, December 11-14, 1983

Research and International Trade Policy Negotiations

The 74th volume of the Eranos Yearbooks, *The Age of Immediacy at the Test of Meaning*, presents to the public the work of the last two years of activities at the Eranos Foundation (2017–2018). The book gathers the lectures presented at the occasion of the 2017 Eranos Conference, *Where is the World Going? The Uncertain Future, between Traditional Knowledge and Scientific Thought*, the 2018 Eranos Conference, *Space for Thinking and Thinking about Space. Reflections on the Relations between the Soul and Places at the Time of the Anthropocene*, the 2017 Eranos-Jung Lectures, *Who is Afraid of Interiority? A Journey through Literature, Philosophy, and Psychology*, the 2018 Eranos-Jung Lectures, *Who is Stealing our Time? The Age of Immediacy at the Test of Meaning*, and the 2018 Eranos School seminar, *The Mechanisms of Heresy: Old and New Forms of Exclusion and Repression*. The volume includes essays by Valery Afanassiev, Stephen Aizenstat, Arnaldo Benini, Paul Bishop, Roberto Casati, Adriano Fabris, Franco Ferrari, Giuseppe O. Longo, Jaap Mansfeld, Panos Mantziaras, Grazia ShMgen Marchianò, Massimo Mori, Guy Pelletier, Antonio Prete, Francesca Rigotti, René Roux, Silvano Tagliagambe, Yannis Tsiomis, Amelia Valtolina, Matteo Vegetti, Antonio Vitolo, Samaneh Yasaei, and Chiara Zamboni.

Theory of Legal Science

This is the first and only book to offer a comprehensive survey of accounting research on a broad international scale for the last two centuries. Its main emphasis is on accounting research in the English, German, Italian, French and Spanish language areas; it also contains chapters dealing with research in Finland, the Netherlands, Scand

Eranos Yearbook 74 - The Age of Immediacy at the Test of Meaning

This essay is an history of time theories since the Antiquity.

Two Hundred Years of Accounting Research

In this book Clodovis Boff rigorously and passionately erects the methodological scaffolding that is necessary to construct a true theology of the political, a true theology of liberation. Much of the book is devoted to clarifying and articulating the boundaries of the relationships among theology, the political, the social sciences, hermeneutics, and praxis. As an element of that constructive work, Boff carefully points out the past and present theoretical shortcomings of political theology and the theology of liberation. Thus the book fills a methodological void that has hampered the full development of a theology of the political, and it blazes a path beyond what the author calls the "first phase" of liberation theology.

The Existence of Time

Are there connections between the structures of political systems and types of scientific advice to policymakers? This volume unites case studies from the Netherlands, France, the European Union and the USA that provide an overview of different institutional arrangements, focusing on issues such as the independence and balance of advice. Common to all is the question which forms of advice can increase the rationality of policymaking without loss of political legitimacy. From the Contents: Mark B. Brown: Federal Advisory Committees in the United States Paul den Hoed and Anne-Greet Keizer: The Scientific Council for Government Policy David Demortain: Designing Regulatory Tools for Pharmaceutical and Food Safety in the European Union Laurent Geffroy, Odile Piriou and Bénédicte Zimmermann: Scientific Expertise in Policy-Making: The Case of Work Policy in France Willem Halffman: The Dutch Planning Bureaus

Theology and Praxis

This essay is a critique of the hermeneutical theories of Searle and Gadamer. It shows that there cannot be two approaches to the comprehension of texts. Hermeneutics cannot differentiate between statements in the sciences of Nature, such as physics and biology, and statements in the sciences of man, such as history and law.

Scientific Advice to Policy Making

Depuis l'apparition du platonisme chrétien dans l'empire romain, la discussion sur la foi et le savoir a façonné le développement ultérieur de l'héritage philosophique des Grecs. Dans cette discussion Jürgen Habermas trouve le fil directeur de sa généalogie d'une pensée postmétaphysique. Il montre comment la philosophie — en parallèle à la formation d'une dogmatique chrétienne dans les concepts philosophiques — s'est pour sa part approprié des contenus essentiels issus des traditions religieuses et s'est transformée en un savoir capable de fondation. C'est précisément à cette osmose sémantique que la pensée séculière qui succéda à Kant et à Hegel doit la thématique de la liberté rationnelle et les concepts fondamentaux de la philosophie pratique qui, jusqu'à aujourd'hui, se sont révélés déterminants. Alors que la cosmologie grecque a été déracinée, les contenus sémantiques d'origine biblique ont été transférés dans les concepts fondamentaux de la pensée postmétaphysique. L'histoire de la philosophie peut être aussi envisagée comme une succession irrégulière de processus d'apprentissage provoqués de façon contingente. Une telle 'généalogie' non seulement met en évidence ces contingences, mais elle met en lumière la nécessité d'un concept compréhensif de raison et la conception que la pensée philosophique se fait d'elle-même à l'aune de ce concept. Habermas élabore une conception dialectique de l'émancipation de la science par rapport à la théologie et du savoir par rapport à la foi. Et il encourage l'instauration d'une relation dialogique vis-à-vis de toutes les traditions religieuses. La pensée postmétaphysique se situe entre sciences et religion.

Statements

The relationship between technicity and scientificity is often overlooked or avoided despite being a determining factor for establishing interdisciplinarity. By focusing on this relationship and highlighting a number of its ramifications, this book sheds light on the hidden or skewed stakes that condition a wide array of scientific projects. The authors present different approaches based on their own professional experience, focusing on the technique–science relationship in domains as diverse as brain mapping, the decipherment of Mycenaean writing and the design process. Each chapter presents varying and often opposing epistemological conclusions to provide the reader with a wide breadth of examples in different fields. Although the scope of this book is far from exhaustive, it serves as a starting point for the necessary and long-overdue clarification of the relationship between these neighboring, yet disjointed, sectors.

Une histoire de la philosophie (Tome 2) - Liberté rationnelle - Traces des discours sur la foi et le savoir

This book covers all forms of ethical assessment of research and innovation at the European Commission, including the implications of the concept of RRI which has emerged as a new framework to be used by the European Commission, and indeed including the newer concepts of Open Innovation and Open Science which are designed to subsume and reconfigure RRI. The book can be used as a 'how to' guide to understand and navigate the ethical and societal demands in developing European research projects; it also pushes the reflection and reflexivity further, bringing provoking new (and also some very old) perspectives to bear on ardent debates in studies of expertise, ethics and policy making.

L'Expert du Tage Mage® - Le Grand Livre - Édition 2021

L'Union européenne est-elle désormais contre la démocratie? Avec l'épisode du référendum grec et l'effroi qui saisit tous les dirigeants de voir un peuple, auquel on avait imposé une cure problématique, entrer en résistance, la crise de la dette a révélé le déficit démocratique des institutions européennes. Jürgen Habermas nous alerte sur les risques que prend l'Europe à s'engager dans une voie 'postdémocratique' pour régler la question de la dette des pays de la zone euro. L'union monétaire européenne ne disposant pas d'un contrôle supranational à sa mesure, les dirigeants allemand et français veulent une collaboration intergouvernementale renforcée. Le Conseil européen doit s'employer à la mettre en place. Ce changement en apparence minimal devrait se traduire par une perte progressive de contrôle des Parlements nationaux sur les lois de finances ; cette réforme insidieuse asphyxierait petit à petit le poumon de la démocratie à l'échelle nationale, sans que cette perte soit compensée au niveau européen. Le processus grec ouvre-t-il le passage d'une Europe de gouvernement à une Europe de la

'gouvernance' – joli euphémisme pour désigner une forme dure de domination politique, qui ne repose que sur le fondement faiblement légitimé des traités internationaux? La 'démocratie d'un seul pays' n'est plus à même de se défendre contre les injonctions d'un capitalisme forcené, qui franchissent, elles, les frontières nationales. Il faut avancer vers et dans la constitution de l'Europe, pour que les peuples regagnent des latitudes d'action au niveau supranational, sans pour autant sacrifier la démocratie. La crise de l'Europe des gouvernements doit conduire à la constitution d'une Europe des peuples. Telle est la conviction de Jürgen Habermas dans ce petit traité de démocratie, vif, tonique et constructif.

Technicity vs Scientificity

Additive manufacturing, which was first invented in France and then applied in the United States, is now 33 years old and represents a market of around 5 billion euros per year, with annual growth of between 20 and 30%. Today, additive manufacturing is experiencing a great amount of innovation in its processes, software, engineering and materials used. Its strength as a process has more recently allowed for the exploration of new niches, ranging from applications at nanometer and decameter scales, to others in mechanics and health. As a result, the limitations of the process have also begun to emerge, which include the quality of the tools, their cost of manufacture, the multi-material aspects, functionalities and surface conditions. Volume 2 of this series presents the current techniques, improvements and limits of additive manufacturing, providing an up-to-date review of this process.

Ethics of Transitions

Environmental change is increasingly considered a critical topic for researchers across multiple disciplines, as well as policy makers throughout the world. Mounting evidence shows that environments in every part of the globe are undergoing tremendous human-induced change. Population growth, urbanization and the expansion of the global economy are putting increasing pressure on ecosystems around the planet. To understand the causes and consequences of environmental change, the contributors to this book employ spatial and non-spatial data, diverse theoretical perspectives and cutting edge research tools such as GIS, remote sensing and other relevant technologies. International Perspectives on Global Environmental Change brings together research from around the world to explore the complexities of contemporary, and historical environmental change. As an InTech open source publication current and cutting edge research methodologies and research results are quickly published for the academic policy-making communities. Dimensions of environmental change explored in this volume include: Climate change Historical environmental change Biological responses to environmental change Land use and land cover change Policy and management for environmental change

La constitution de l'Europe

Ce livre se veut une analyse des divers volets du développement technoscientifique. Le premier volet est épistémologique dans la mesure où ce qui est à analyser, c'est la raison en tant qu'instrument et sa mise en acte en tant que rationalité/rationalisation. Le second volet essaie de mettre en lumière le processus par lequel cette rationalité mise en acte a pu créer simultanément la puissance en tant que maîtrise de la nature et aussi la négation et même l'anéantissement tendanciel de l'humanité.

From Additive Manufacturing to 3D/4D Printing 2

OC [A leading French Christian writer,] Guillebaud leads the search for the Greek, Jewish and Christian roots of our fundamental Western values. . . an erudite and frank analysis of the perverse trends that undermine morality today and calls for a revolutio"

The Logic of Artificial Life

This book focuses on the impact of information and communication technologies (ICTs) on organizations and society as a whole. Specifically, it examines how such technologies improve our lives and facilitate our work. A main aspect explored is how actors understand the potential of ICTs to support organizational activities and hence, how they adopt and adapt these technologies to achieve their goals. The book collects papers on various areas of organizational strategy, e.g. new business models, competitive strategies, knowledge management and more. The main areas dealt with are new technologies for a better life, innovations for e-government, and technologies enhancing enterprise modeling. In addition, the book addresses how organizations impact society through sustainable

development and social responsibility, and how ICTs employ social media networks in the process of value co-creation.

International Perspectives on Global Environmental Change

This book constitutes the refereed proceedings of the 6th Mexican International Conference on Artificial Intelligence, MICA I 2007, held in Aguascalientes, Mexico, in November 2007. The 116 revised full papers presented were carefully reviewed and selected from numerous submissions for inclusion in the book. The papers are organized in sections on topics that include computational intelligence, neural networks, knowledge representation and reasoning, agents and multiagent systems.

Développement technoscientifique

Forged at the heart of international political bodies by expert researchers, the innovation cluster concept has been incorporated into most public policies in industrialized countries. Based largely on the ideas behind the success of Silicon Valley, several imitative attempts have been made to geographically group laboratories, companies and training in particular fields in order to generate “synergies” between science and industry. In its first part, *Innovation in Clusters* analyzes the infatuation with the system of clusters that is integral to innovative policies by analyzing its socio historical context, its revival in management and its worldwide expansion, looking at a French example at a local level. In its second part, the book explores a specialized biotechnology cluster dating back to the end of the 1990s. The sociological survey conducted twenty years later sheds a different light on the dynamics and relationships between laboratories and companies, contradicting the commonly held belief that innovation is made possible by geographical proximity.

Re-Founding The World

Our current situation, marked simultaneously by the Anthropocene, global warming, digitization and exponential artificial intelligence, leads us to sudden and total change in global civilization and, de facto, to rebuilding the foundations of the international economy. *Innovation Ecosystems* explores the risks and opportunities facing the contemporary world by analyzing, comparing and categorizing the world's most dynamic innovation ecosystems by region and city. This includes the identification of key characteristics – common or original – and learning from them in terms of culture, management, system and structure, in order to meet current challenges and think about civilizations of the future.

ICT for a Better Life and a Better World

What gives artefacts their power and beauty? This ethnographic study of the decorated long yams made by the Nyamikum Abelam in Papua New Guinea examines how these artefacts acquire their specific properties through processes that mobilise and recruit diverse entities, substances and domains. All come together to form the 'finished product' that is displayed, representing what could be an indigenous form of non-verbal 'sociology'. Engaging with several contemporary anthropological topics (material culture, techniques, arts, aesthetics, rituals, botany, cosmology, Melanesian ethnography), the text also discusses in depth the complex position of the study of 'technology' within anthropology.

MICA I 2007: Advances in Artificial Intelligence

Innovation, in economic activity, in managerial concepts and in engineering design, results from creative activities, entrepreneurial strategies and the business climate. Innovation leads to technological, organizational and commercial changes, due to the relationships between enterprises, public institutions and civil society organizations. These innovation networks create new knowledge and contribute to the dissemination of new socio-economic and technological models, through new production and marketing methods. *Innovation Economics, Engineering and Management Handbook 1* is the first of the two volumes that comprise this book. The main objectives across both volumes are to study the innovation processes in today's information and knowledge society; to analyze how links between research and business have intensified; and to discuss the methods by which innovation emerges and is managed by firms, not only from a local perspective but also a global one. The studies presented in these two volumes contribute toward an understanding of the systemic nature of innovations and enable reflection on their potential applications, in order to think about the meaning of growth and prosperity.

Innovation in Clusters

This collection of essays explores the history of control by looking at a variety of cultural forms, practices, and beliefs. These ideas are examined critically, not only in the light of the possibilities which control technologies seem to offer for resolving human problems, but also the contradictory moral, political, and economic consequences they have had. The discussion takes into account the important modes in which humans have cast their organizational efforts: political, social, psychological, economic, and legal. It also takes a *longue durée* view of the history of control, looking back to the eighteenth and nineteenth centuries, and establishes the continuities in the twentieth century as a transatlantic phenomenon.

Innovation Ecosystems

This volume is a collection of papers presented during methodological workshops organized by CODESRIA. Its objective is to revitalize theory and methodology in field work in Africa while contributing to the creation of a critical space hinged upon the mastery of epistemological bases which are indispensable to any scientific imagination.

Catalog of Copyright Entries. Third Series

Who hasn't dreamed of seeing matter transformed in a way that suits you? This is the goal of 4D printing, using materials that can change in terms of shape and property under the effect of energy stimulation. From the description of the actions and actuators, the authors show the weaknesses that limit the industrialization of 4D printing processes; these are the modes of energy stimulation. To prepare for the future, two chapters are introduced: "Material-Process Duality in Industrial 4D Printing" and "How to Approach 4D Printing in Design". If the capture and reuse of 4D printing knowledge is necessary for this objective, the conclusion leaves the existing myth around the 4D printing theme and proposes a "draft" roadmap that should be the subject of reflection and scientific debate on a concept that is still immature, but full of promise.

Growing Artefacts, Displaying Relationships

Innovation Economics, Engineering and Management Handbook 1