



“...We are mobile, creative, independent...”

“...I want the ones who have another way of doing things that nobody's listening to...”

“...We support everything that represents innovation...”

“...Good old-fashioned 'data' has suddenly become 'big'...”

“...If a body catch a body coming through the rye...”

“...Our debates were to be under the direction of a president, and to be conducted in the sincere spirit of inquiry after truth...”

“...a young Man, a Native of Babylon, by name Zadig...”

“...Give us the black sheep...”

# IDEATORS

*their words and voices*

**PIERO FORMICA**

# Ideators

This page intentionally left blank

# Ideators: Their Words and Voices

BY

**PIERO FORMICA**

*Maynooth University, Ireland*



United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited  
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2022

Copyright © 2022 Piero Formica. Published under exclusive licence by Emerald Publishing Limited.

**Reprints and permissions service**

Contact: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

**British Library Cataloguing in Publication Data**

A catalogue record for this book is available from the British Library

ISBN: 978-1-80262-830-2 (Print)

ISBN: 978-1-80262-829-6 (Online)

ISBN: 978-1-80262-831-9 (Epub)



**ISOQAR**  
REGISTERED

Certificate Number 1985  
ISO 14001

ISOQAR certified  
Management System,  
awarded to Emerald  
for adherence to  
Environmental  
standard  
ISO 14001:2004.



INVESTOR IN PEOPLE

*To the young ideators and knowledge nomads of Maynooth and Padova  
Universities, who shape the future of their communities.*

This page intentionally left blank

# Table of Contents

Biography	<i>ix</i>
Acknowledgements	<i>xi</i>
Foreword	
<b>Rage against the Machine</b> Brian Donnellan, Vice President of Engagement and Innovation, Maynooth University	<i>xiii</i>
<b>Part 1</b>	
<b>Chapter 1 Ideators: The Revolutionaries of Knowledge in Action</b>	<i>3</i>
<b>Chapter 2 Ideators as Path Creators: Their Quest for the Holy Grail of Disruptive Innovation</b>	<i>25</i>
<b>Part 2</b>	
<b>Chapter 3 The Big Picture</b>	<i>47</i>
<b>Chapter 4 Words and Voices</b>	<i>55</i>
<b>Chapter 5 Words and Voices: Who's Who</b>	<i>181</i>
Afterword	
<b>Ideation and Exploring and Mapping the Unknown</b> Alan Barrell, Founder of the Cambridge Learning Gateway	<i>213</i>
Index	<i>217</i>

This page intentionally left blank

# Biography

**Professor Brian Donnellan** is Vice President of Engagement and Innovation, and Professor of Management Information Systems at Maynooth University where he is responsible for Enterprise and Regional Engagement. His other activities include:

- Chairman of the All-Ireland Smart Cities Forum and a board member of the Irish Centre for Local and Regional Development (ICLRD).
- Co-Principal Investigator in the Irish Software Research Centre, 'LERO' and The Smart Cities Research Centre, 'ENABLE'.
- Funded Investigator in the Research Centre for Advanced Manufacturing, 'CONFIRM' and the Centre for Future Networks and Communications, 'CONNECT'.
- Academic Director of the Innovation Value Institute

Brian's research interests include Technology Adoption, Innovation Management and Data Governance.

He teaches in the areas on topics relating to IT-enabled innovation and Technology Management.

Prior to becoming an academic, he spent 19 years working in the ICT industry.

**Piero Formica**, a winner of the Innovation Luminary Award 2017, began his career in the early 1970s as an Economist in the Economic Prospects Division of the OECD. He is a Senior Research Fellow with the Innovation Value Institute of Maynooth University in Ireland and a Guest Professor at the Contamination Lab of the University of Padova and the Business School Esam in Paris. He is also an Advisor of the Cambridge Learning Gateway. Professor Formica serves on the Editorial Boards of *Industry and Higher Education*; the *International Journal of the Knowledge Economy*; the *International Journal of Social Ecology and Sustainable Development*; the *Journal of Global Entrepreneurship Research*; the *South Asian Journal of Management*; the *Journal of Comparative International Management*, and *Frontiers in Education*. He has extensively published in knowledge economics, entrepreneurship and innovation. With Emerald, Formica has published: *Grand Transformation towards an Entrepreneurial Economy: Exploring the Void*, 2015; *Exploring the Culture of Open Innovation: Towards an Altruistic Model of Economy*, 2018; *Innovation and the Arts: The Value of Humanities Studies for Business*, 2020; and *Econaissance: The Reimagined School and the Culture of Entrepreneurialism*, 2020.

**Alan Barrell** has worked in Health Care as a frontline Medical Scientist, in Medical Research, and more recently as Chairman and Chief Executive of large multi-national companies and smaller technology start-ups. His international experience includes the establishment and Chairmanship of a subsidiary in China of a British technology company. He teaches in Universities in the UK, Europe, North America and Asia with professorships in European and Chinese universities. He has raised and managed a venture capital fund, is a business angel investor and trustee of charities. He has been honoured with the Queen's Award for Enterprise Promotion in the UK and with membership as Knight First Class of the Order of the White Rose of Finland for services to Education. His current work is focussed on the commercialisation of research, technology start-ups, understanding Innovation Districts and Ecosystems with a focus on Science Parks and Innovation Centres, together with a special interest in the development of UK–China Education and Trade Relationships. Alan promotes the vision of 'A World Without Borders'. His career experience has prepared him well to be Executive Chairman at Cambridge Learning Gateway. Cambridge and its innovation ecosystem remains a principle pre-occupation.

# Acknowledgements

The roots of this work lie in the soil of the knowledge economy, which I have cultivated by working with academic institutions in different countries. I have fond memories of the professors, researchers and students with whom I have shared thoughts and projects.

I express my gratitude to the University of Maynooth and my colleagues at the Innovation Value Institute for their unwavering support in allowing me to proceed along the research path.

My thanks also go to the Contamination Lab, University of Padua, and specifically to its Director, Professor Fabrizio Dughiero, for allowing me to carry out experiments at the Lab on ideation processes aimed at creating transformative enterprises.

To Professor Alan Barrell, founder of the Cambridge Learning Gateway, go my thanks for giving me access to the communities of scholars that enabled me to float the words and voices of innovation into the blue sky of research.

To the journal *Industry & Higher Education* and its Academic Editor, John Edmondson, I owe the opportunity to expound my thoughts in advance in the course of exploration.

Maynooth University, 23 June 2021

This page intentionally left blank

# Foreword

## Rage against the Machine

*Brian Donnellan*

### **Situating Humans at the Centre of Knowledge Creation**

This short essay traces an intellectual thread relating to the role of the individual in Knowledge Creation from the roots of empiricism to current management theory. I identify schools of thought that promoted modes of thinking that subverted the prevailing orthodoxy of the time by placing the individual at the centre of knowledge creation. Starting with the classical definitions of knowledge, we see a train of thought that identifies human experience as the nexus for action, rather than other approaches that privilege artefact-driven systems solely based on codified information derived from reified forms of human understanding. Starting with the Aristotelian worldview, connections are made to a medieval mystical tradition centred on individual experience which, in turn, laid the foundations for the phenomenological movement of the nineteenth century. Some recent thinking on non-deterministic modes of thinking is then presented as an evolution from phenomenology. The focus is on praxiological methods that are rooted in situatedness and context rather than being encumbered with the inertia of doctrinaire methods based on codified historical information.

The creation of knowledge has been a basic human endeavour since the dawn of Western civilisation. Kelly (2016) pointed out that in Book VI of the *Nicomachean Ethics*, Aristotle identified five distinct ways in which human beings may reveal what is true. The first two of these, ἐπιστήμη (epistēmê) and τέχνη (techne), are typically translated as ‘knowledge’ and ‘skill’. These are two different ways of knowing in the broadest sense, what we sometimes call scientific knowledge, on the one hand, and skill or know-how on the other. The German philosopher Martin Heidegger (1977) gives a helpful exploration of these terms: in their own way each of them means, he says, ‘to be entirely at home in something, to understand and be expert in it’.

This bifurcation in the treatment of theoretical and practical knowledge persisted down through the Middle Ages. Early craft-based skills (τέχνη) were supported organisationally by the medieval guild network in Europe while theoretical knowledge (ἐπιστήμη) was supported by the nascent academic communities in Paris and Bologna in the eleventh century. There was little agreement between the approaches to topics requiring combinations of different academic subjects, especially science and the humanities. Wilson’s (1998) concept of consilience would eventually address these challenges in the twentieth century

but Muslim Andalusian polymath Abu Al-Walid Ahmed Mohammad Rushd (also known as Averroes in the West) devoted his scholarly life to connecting seemingly disparate streams of knowledge creation.

Averroes was born in Córdoba in 1126, and wrote about many subjects, including philosophy, theology, medicine, astronomy, physics, psychology, mathematics, Islamic jurisprudence and law, and linguistics. He spent much of his life studying the writings of Aristotle, whose ideas proved popular but controversial among the intelligentsia in the Muslim world at the time. Averroes identified physicians, and with them, surgeons and opticians, as exemplifying the necessary connection between theory and practice. In his *Generalities* (of medicine) or *Kulliyat* (1169), he viewed

surgery which is learned through practice alone, and which is practiced without previous study, like surgery of peasants and of all illiterate folk, was a purely mechanical undertaking, and not truly theoretical, and was truly neither science nor an art. But, on the other hand, he specified that following theoretical studies the physician must avidly engage in practical exercises. Lessons and dissertations teach only small part of surgery and anatomy.

(Gea, 2006)

He regarded medicine not only as a science dealing with diseases but also with the preservation of health, the predominance that he gave to personal observations, and the importance of understanding the causes (etiology) and mechanisms (pathogenesis) that lead to diseases. The seven volumes of the *Kulliyat* were adopted as study texts by the best medieval and Renaissance faculties of medicine, such as those in Montpellier, Oxford and Paris (Gea, 2006). Averroes' main influence on the Christian west was through his extensive commentaries on Aristotle (Bodetti, 2020).

After the fall of the Western Roman Empire, western Europe fell into a cultural decline that resulted in the loss of nearly all of the intellectual legacy of the Classical Greek scholars, including Aristotle. It is said that Averroes understood, and interpreted and analytically discussed Aristotle's philosophy more than any of his predecessors or contemporaries. Averroes maintained that the deepest truths must be approached by means of rational analysis and that philosophy could lead to the final truth (Tbakhi, 2008). He accepted revelation, and attempted to harmonize religion with philosophy without amalgamating them or eradicating their differences. Averroes has been described as the 'father of free thought and unbelief' (Guillaume, 1945), the 'Prince of Science' and an early advocate of unfettered modes of decision-making freed from the constraints of conventional thinking and institutional norms. Averroes was buried in Cordova, and it is said that his coffin 'was placed on one side of a mule, while on the other side were his books, which served as a counterweight' (Real Academia de la Historia, 2021).

We see resonances of the Averroes focus on the centrality of personal experience in the works of Meister Eckhart. Eckhart was born around 1260 in the little

Thuringian village of Tambach as the son of noble parents and joined the Dominican priory in Erfurt when he was about 15 years of age. He studied at the Studium Generale in Cologne and at the Sorbonne in Paris. In 1303, he was named provincial of the new Dominican province of Saxonia, and by 1311, he was magister of theology at the University of Paris. Eckhart has been described as the pre-Cartesian discoverer of subjectivity and infinity, harbinger of modernity, mystic preacher of loss of self, detachment, going out from oneself, innerness or intimacy, and living ‘without the why’, themes that continue to bring Eckhart into comparison with Eastern philosophy. Eckhart is also seen as having anticipated Descartes with his turn to subjectivity in an effort to counterbalance the more rigid prescriptions of the Neo-Thomist revival. The existentialist psychiatrist and philosopher Karl Jaspers presents Eckhart as overcoming the subject–object divide; others see him as developing a conception of the epistemological subject (Moran, 2013).

The Middle Ages witnessed an emerging train of sceptical and critical thinking as well as a growth in anti-intellectualism which originated with Duns Scotus, was fuelled by Averroism and the mysticism of Meister Eckhart and popularised by Cardinal Nicholas of Cusa. In 1449, Nicholas wrote *The Defense of Learned Ignorance* in his hometown of Kues, Germany, in which he states:

The greatest danger against which the sages have warned us, is that which results from the communication of what is secret to minds enslaved by the authority of an inveterate habit, for so powerful is a long observance of authorities that most people prefer to give up life rather than their habits; we can see this regarding the persecutions inflicted on the Jews, the Saracens, and on other hardened heretics, who affirm their opinion as law, confirmed by the usage of time, which they place above their own lives.

(Cusanus, 1440)

A keen devotee of Eckhart, after coming to Eckhart’s defence when he was denounced by the institutional church in Rome, Nicholas concludes with this statement:

There is absolutely no doubt that your speculation will triumph over all the philosophers’ means of rationalizing... For it is only there that in a sort of divine pasture joyfully regain my strength, insofar as God allows me, using Learned Ignorance and endlessly aspiring to take pleasure in that life which for the moment I perceive only through distant images, but toward which I attempt each day to get a little closer.

(Cusanus, 1440)

In the twentieth century, Nicholas’s cautionary tales of ‘minds enslaved by the authority of an inveterate habit’ and his advocacy of Eckhartian mysticism proved influential in Heidegger’s formative years. The philosophy of Heidegger

explicitly drew on the tradition of mystical theology and especially Eckhartian *Gelassenheit*, translated as detachment or releasement to express a new attitude towards the technological world.

We let technical devices enter our daily lives, and at the same time leave them outside as things that are dependent on something higher. I would call this comportment toward technology which expresses 'yes' and at the same time 'no', by an old word, releasement towards things.

(*Gelassenheit zu Dingen*) (Heidegger, 1966)

This releasement from somewhat mechanical linear sequential forms of thinking was further developed by Spinoza, Flores, Fernando and Dreyfus (1997), who described how we need to be drawn out of instrumental perspectives of the world by new thinking modes that are immune to calculative manners of thinking as the only way of relating to the world. This critique was also developed by some of Heidegger's pupils such as Herbert Marcuse, whose book *One Dimensional Man* described a society in which growing productivity goes hand in hand with growing destruction, where demands for products that do not meet genuine human needs are artificially created and where the rationality of the technological society, which propels efficiency and growth, is itself actually deeply irrational. Marcuse put it thus:

The more rational, productive, technical, and total the representative administration of society becomes, the more unimaginable the means by which the administered individuals might break their servitude and size their own liberation.

(Marcuse, 1971)

In the late twentieth century, a number of influential thinkers in technology management emerged who could be seen as natural successors to Heidegger and Marcuse. Andrew Feenberg and Claudio Ciborra are especially noteworthy in this regard. Feenberg's (2005) point of departure is in the phenomenological tradition, but his Instrumentalization Theory of Technology is concerned with current societal challenges associated with the connectedness of the internet world and offers a platform for reconciling many apparently conflicting strands of reflection on technology. He builds on Heidegger's history of being, whereby the modern 'revealing' is biased by a tendency to take every object as a potential raw material for technical action. Objects enter our experience only in so far as we notice their usefulness in the technological system. Release from this form of experience may come from a new mode of revealing, but Feenberg contends that Heidegger's new mode of revealing had been hitherto under-developed. Like Marcuse, Feenberg relates technological revealing to the consequences of persisting divisions between classes and between rulers and ruled in technically mediated institutions of all types. However, he argues against any conceptualization of technological thinking as in a one-way direction of cause and effect.

Rather, he proposes an ‘Instrumentalization Theory’ that holds that technology must be analysed at two levels, the level of our original functional relation to reality and the level of design and implementation.

In a similar vein, Claudio Ciborra’s work on organisation theory and information systems, emphasises the ‘situated’ context within which change and other developments take place as an alternative to the functional/positivist view of organisations and technologies. He traces the use of the situatedness concept from the American pragmatist research tradition, drawing on a concept that was originally developed by Husserl and Heidegger. In this context ‘situated’ is the translation of the German term ‘befindlich’, which refers to both the situational circumstances of action and the emotional disposition of how you feel in that context. Hence, the original term ‘befindlich’ not only refers to the circumstances one finds himself or herself in but also to his or her ‘inner situation’, disposition, mood, affectedness and emotion. Heidegger (1962) states that understanding (i.e. cognition) is always situated, meaning that ‘it always has its mood’. In other words, situatedness refers in its original meaning to both the ongoing or emerging circumstances of the surrounding world and the inner situation of the actor. Ciborra argues that the emotional heart of the phenomenological definition had been lost and what is needed is an alternative to the somewhat doctrinaire, sterile approach to thinking about organisations and a return to ‘the emotional heart of the phenomenological definition of context’ (Ciborra, 2004). He drew from Heidegger’s analysis of a ‘situation’ as having three senses – a sense of content; a sense of relation and a sense of actualisation or enactment. Critically, the sense of actualisation or enactment is linked to the happening and the situation as an action, and this key dimension guarantees a study of the situation as part of the stream of life and not as an objectifying desk exercise. Furthermore, the sense of enactment captures other fundamental dimensions of the situation and its temporality: a sense of history and a sense of embodiment.

Situatedness has also found a role to play in a relatively recent management theory that has been developed to explore the complexities of modern economies and uncertainties surrounding emerging phenomena. The theory has been called *chemin faisant* (path-making or road-making) and refers to a process of designing and implementing an organisational strategy where the strategy is adapted as it is implemented in order to take advantage of situations that emerge along the way (Avenier, 1997). This adaptation is based on progress assessments which deal with the feedback from the actions taken, the possibly unforeseen changes in the context and the relevance, or not, of maintaining the aims of the strategy in the new context as it has evolved. The concept was developed in 1996 and central to this approach is the idea of a ‘liberated company’, offering not a turnkey management model but a managerial philosophy based on principles of trust, autonomy, initiative, accountability, self-control and collective intelligence. The key to success lies in activating these principles at the level of the individual by keeping them in dialogical tension with antagonistic principles like control, governance and process-based thinking.

And so, it can be claimed that an appreciation of the importance of individual agency and the need for a reflexive approach to dealing with emergent

technological phenomena has persisted down through the ages. Sheila Jasano (2020), in her recent essay on the risks of society being led by technocracy, reminds us that this is an era of unprecedented convergence across multiple fields, propelled by breakthroughs in nano-, bio-, information, and cognitive sciences and technologies (Roco & Bainbridge, 2003). She identifies three risks associated with what she sees as a current inclination towards technocracy-led thinking:

- *Technology leading society*: This belief encourages an unthinking and unreflective extension of the power of engineering. It assumes that the new is good in itself and disruption is the path of virtue.
- *The Mt. Everest syndrome*: This view assumes that if engineers can do something, then, as with climbing the highest mountain ('because it's there'), they should do it. This way of thinking may yield short-term benefits for some, but it does not ensure that innovation will serve the needs of the wider human community.
- *Value-free Engineering*: The third temptation is to insist that engineering design is value-free and merely a tool for solving problems. This conviction avoids reflection on how and why engineers choose the problems they wish to solve. It marches hand in hand with the perception that technological failures are due to misuse or abuse.

At the heart of Jasano's work is a cry for greater reflexivity on how technocracy is shaping our world, based on the Socratic maxim of 'know thyself', which would stimulate critical reflection on all aspects of research and practice.

This short essay has traced a lineage of thinking that 'situates' the Human Being at the centre of Knowledge Creation and challenges overly instrumental approaches to how we see the world. The essay starts with the roots of empiricism in the Aristotelian worldview which was foundational to the medieval human-centred experiential perspective espoused by the Rhineland mystics. It is then argued that Eckhartian mystical theology with its emphasis on human experience laid the platform for phenomenology's rejection of the subject-object divide. Then a link is established between Heidegger's history of being and recent technology management theory as exemplified by Feenberg and Ciborra. Finally, we see that today's emphasis on context and situatedness is reflected in 'chemin faisant' management theory and Jasano's pleas for greater reflexivity in how we respond to the challenges of technocracy-led thinking.

## References

- Avenier, M. J. (1997). *The "road-making" strategy*. Paris: Economica.
- Bodetti, A. (2020). How Averroes bridged the east and the West. *Inside Arabia*, June 6.
- Ciborra, C. U. (2004). Getting to the heart of the situation: The phenomenological roots of situatedness. Interaction Design Institute Ivrea, Symposium 2005.
- Cusanus, N. (Nicholas of Cusa) (1440). *De Docta Ignorantia [On Learned Ignorance.]*. 12 February. Minneapolis, MN: The Arthur J. Banning Press, 1981.

- Feenberg, A. (2005). Critical theory of technology: An overview. *Tailoring Biotechnologies*, 1(1), 47–64. Winter.
- Gea, J. (2006). Averroes, rationalism and systematization in medicine. *Open Respiratory Archives*. doi:10.1016/j.opresp.2020.06.002
- Guillaume, A. (1945). *The legacy of Islam*. Oxford: Oxford University Press.
- Heidegger, M. (1962). *Being and time* (p. 182). Oxford: Blackwell Publishing.
- Heidegger, M. (1966). *Discourse on thinking* (p. 54). New York, NY: Harper & Row.
- Heidegger, M. (1977). The question concerning technology. In *The question concerning technology and other essays*. Tr. W. Lovitt (p. 13). New York, NY: Harper & Row.
- Jasano, S. (2020). Temptations of technocracy in the century of engineering. *The Bridge, National Academy of Engineering*, Vol. 50, No. S, Winter.
- Kelly, S. D. (2016). *Technê, technology, and Truth from Aristotle to Foucault*. A public lecture, February 2, 2016. Dublin: Lochlann Quinn School of Business.
- Marcuse, H. (1971). *One-dimensional man: Studies in the ideology of advanced industrial society* (pp. 1–18). Boston, MA: Beacon Press.
- Moran, D. (2013). Meister Eckhart in 20th-century philosophy. In J. M. Hackett (Ed.), *A companion to Meister E. Ckhart. Brill's companions to the Christian tradition* (Vol. 36). Leiden: Brill.
- Real Academia de la Historia. (2021). Retrieved from <http://dbe.rah.es/biografias/7043/averroes>. Accessed on March, 2021.
- Roco, M. C., & Bainbridge, W. S. (Eds.). (2003). *Converging technologies for improving human performance*. New York, NY: Springer.
- Spinosa, C., Flores, F., & Dreyfus, H. L. (1997). *Disclosing new worlds: Entrepreneurship, democratic action, and the cultivation of solidarity*. Cambridge, MA: The MIT Press.
- Tbakhi, A. (2008). Amr Samir S., Rushd (Averroës): Prince of science. *Annals of Saudi Medicine*, 28(2), 145–147.
- Wilson, E. O. (1998). *Consilience: The unity of knowledge*. New York, NY: Knopf.

This page intentionally left blank

# Part 1

This page intentionally left blank

## Chapter 1

# Ideators: The Revolutionaries of Knowledge in Action

Great minds discuss ideas; average minds discuss events; small minds discuss people.

(from Socrates to Eleanor Roosevelt)

Ideas are like rabbits. You get a couple and learn how to handle them, and pretty soon you have a dozen.

(John Steinbeck)

Up to the present, man has been, to a certain extent, the slave of machinery, and there is something tragic in the fact that as soon as a man had invented a machine to do his work he began to starve.

(Oscar Wilde, *The Soul of Man Under Socialism*)

## Prologue: The Ideation Field

Enlarging the field of ideation and making it available to a multitude frees humanity from that greatest atrocity which is the inner nature of work in the industrial society. Without ideation, people could die, if not of starvation, of cognitive decline. There are many ways of conceiving. The classic economists, among whom Nicolas de Condorcet (1743–1794) stands out in this respect, urged the reading of novels as an intellectual vehicle for making important decisions, including engaging in the process of ideation. Regrettably, as argued by the philosopher and political activist Simon Weil (1909–1943) ([Zaretsky, 2020](#)), working conditions prevent workers from thinking. A reflection shared and taken up, as we shall see, by the poet Wislawa Szymborska (1923–2012) in her speech on the occasion of the award of the Nobel Prize for Literature in [1996](#).

At the beginning of the first industrial revolution, between 1760 and 1780, Adam Smith (1723–1790), the ‘father of economics’, was concerned about the condition of work that mortifies intellectual qualities:

#### 4 Ideators

The man whose whole life is spent in performing a few simple operations, of which the effects, too, are perhaps always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention, in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even of the ordinary duties of private life.

(Smith, 1776)

Later, as machines progress, they assist or replace human muscles in their work, the Scottish historian and essayist Thomas Carlyle (1795–1881) wrote in 1829:

It is the age of machinery....; the age which... teaches, and practices the great art of adapting means to ends. Nothing is now done directly or by hand; all is by rule and calculated contrivance.... On every hand, the living artisan is driven from his workshop to make room for a speedier, inanimate one. The shuttle drops from the fingers of the weaver and falls into iron fingers that ply it faster... There is no end to machinery... For all earthly, and for some unearthly, purposes, we have machines.

(Lapham's *Quarterly*, 2021)

In a tomorrow bereft of new ideas sprouting from the human brain, machines could ideate. That would be the case if human beings, concerned only with making machines germinate ideas, were no longer concerned with thinking. It will be the mind-expanding ideation of many ideators that will give impetus to the post-pandemic economy. This goal is reachable if fewer and fewer people occupy predetermined and fixed positions in companies. Ideation requires flying like butterflies from one side of the organisation to the other. It is the movements of people that will raise waves of disturbance, anticipating change, in the flat sea of the hierarchical organisation. Insights can be expected by looking at the industries that, according to Nobel Prize winner for Economics Michael [Spence \(2021\)](#),

seem poised for a period of extraordinarily rapid growth. Specifically, in sectors with a combination of technological possibilities, available capital, and high demand for creative new solutions, conditions will be highly favorable for investment and new company formation. Three leading candidates are the application of digital technologies across the entire economy, biomedical science (and its applications in health care and

beyond), and technologies that address the various challenges to sustainability, especially those associated with climate change. Elevated growth in this context means not just sector growth, but high levels of entrepreneurial activity and innovation, a plethora of new fast-growing companies, and large inflows of capital carrying higher expected rates of return.

The research ground has been sown in these areas, and the entrepreneurial harvest can be plentiful if the ideators also act as knowledge entrepreneurs.

By moving from the economy of mass production to knowledge-driven entrepreneurship, value creation is embedded in the lifeblood of ideas in action (the 'ideation'), combined, shared with investors, disseminated territorially and adapted to the conditions of individual communities. Knowledge multiplies when it is shared. Its energy feeds the mental models that map knowledge. Collaborative efforts are incentives not to collude but to combine cooperation and competition to increase the forces working for the general interest of the knowledge society.

Knowledge clusters occupy the very centre of a society attentive to new ideas, findings and opportunities. Entrepreneurial ideators, embedded in knowledge clusters, devise commercially viable and growing knowledge-intensive businesses unbounded by geography and culture. Adept at tapping into the global talent pool, those ideators contribute to raising and crossing cultural integration and creative entrepreneurship. That is how knowledge clusters take shape as uniquely human twenty-first-century urban ecology driven by the culture of entrepreneurialism imbued with a passion for ideating (Formica, 2003).

## **The Double Track of the Ideation Process**

Ideation is an adventure. In order to conceive, do we get on the train that runs along the data track? Or do we take the train on the track of subjective experience, of the sphere of thoughts that are alien to what Adam Smith called 'political arithmetic' that tinkers with numbers (Williams, 2020)? There are bare facts and data, supposed, apparent, accepted, expected, reported. There is, therefore, a polygamous love that forces us to proceed with setbacks and reversals. Our magic lamp to take the best route is curiosity, which challenges conventional wisdom.

From the window of the first train, we see what is: data and thoughts that descend from them. We are trying to map better, in more detail, the known territory. We started with hypotheses, then confirmed by data. In the end, we got measurements, Enrico Fermi would say. Travelling on the second train, we envision the panorama we would like to see. Our adventure does not involve mapping what exists, but in conjecturing and, if anything, discovering new territories: what we would like reality to be.

In *The Little Prince* (1943/1995), the French writer Antoine de Saint-Exupéry (1900–1944) pens: 'adults are obsessed with facts and figures and fail to understand the real meaning of things'. Facts that narrow the field of imagination can

lead to confusing one thing for another: in the words of the Little Prince, to mistaken for a hat a boa snake that has swallowed an elephant. To not make such gross errors, reading helps us peel a book and discover the very precious part under the ‘peel’ (librum is the inner part of the tree bark). It is precious because it is white and can therefore be used for writing on. Those who do so annotate, comment in the margins, reproduce real or imagined things with marks. These are the marginalia that readers over the centuries have produced for sometimes personal, sometimes public purposes. In *Il libro altruista: Metodo per la generazione di un’opera annotata ad elevata fruibilità*, Vincenzo Naclerio (2020) opens the debate on the vast panorama of marginalia. The stories written by a humanist might entice a scientist to annotate new musings and vice versa. Beyond the boundaries drawn by the author, one enters the vast territories of the reader’s imagination where extraordinary works of thought can manifest themselves. Einstein said that reading the Scottish philosopher David Hume’s writings helped him formulate the theory of special relativity. In the oasis of reading and writing, one pauses quietly and thinks deeply, making ideas collide and then merge into unexpected combinations. A book is a vehicle for the transmission, the sharing of ideas and their constructive contrast.

## **Ideators, Those Who Sprout Ideas: The Case of the World’s First Geographic Society**

Ideators turn knowledge into action that yields in the marketplace innovation-based advantage. Ideators spontaneously gather in a community of practices, a constituency of many different characters. This community harnesses creativity and promotes the cross-fertilisation of ideas. A compromise between individuality and group harmony reduces personal antagonism induced by affective conflicts and facilitates confrontation through cognitive conflicts whose intellectual disagreement produces energy conveyed to the ideation process.

The seventeenth-century geographer, Father Vincenzo Coronelli (1650–1718) of the Order of Friars Minor in Venice, was the catalyst of a community of practice, the Cosmographic Academy of the Argonauts. Under various forms of participation, that community included princes, illustrious savants all over Europe, merchant-politicians and explorers who were the vanguard of European power. Thanks to geographic information obtained inside the community, Coronelli improved his cartographic and printing workshops in the Franciscan convent in Venice.

Traditions, beliefs, norms, values and artefacts: these are the seeds of the culture that cultivates the mind. When culture yearns to be the engine of evolution, it goes around new experiences, it runs ‘all the orb of science’, as the philosopher Giambattista Vico (1668–1744) would say. He recommended young people to compare all ideas ‘because the variety of doctrines helps discoveries and advises the right choice’ (Tommaseo, 1985).

The co-evolution of ideas (the content) and their historical, social, organisational and institutional forms (the context) have been the mainspring of progress

throughout history. It is the stream of human activity, its flow of energy as described by Isabel Paterson (1886–1961) in *The God of the Machine* (1943/2003), her treatise on political philosophy, that makes possible the co-evolution featuring one civilisation from the next. Fifty years or so later, the time had come to reappraise that theme. In their celebrated book, *The Knowledge Creating Company*, Nonaka and Takeuchi (1995) portrayed the Paterson's flow of energy as a flow of knowledge.

The energy circuit of the sailing-ship era or that of the iron-hulled, ocean-going steamship age differs widely from today. The relentless technological changes and the ever-changing geopolitical and geo-economic maps are the results of the creativity of independent thinking, which, in turn, is prompted by the changes. Cognitive skills come into play, such as rethinking, unlearning and learning several skills at once, transferring the application of skills mastered in one domain to another. The game is played on several levels: collaborating to co-create; critiquing one's ideas as well as those of others in order to stimulate new thinking; comparing the problem under investigation with something else that has little or nothing in common in leading to new insights and results diverging from those expected; wandering with thought to seek inspiration. The players in the field are the ideators, people capable of generating ideas that turn into ventures, not just entrepreneurial ones. They are people who prioritise well-being, with themselves and with the community, in the sense of altruism, which Adam Smith expounded on in his famous essay *Theory of Moral Sentiments* (1759). The ideators replace the workers of past industrial revolutions. The current one is the revolution of knowledge in action, which requires people to conceive and move original ideas.

## **Renaissance Workshops**

A breeding ground for new ideas, Renaissance workshops were mainly envisaged as an ideation field, in the sense that the ideas moved ahead up to cross the finish line of entrepreneurship. It is as if those workshops were equipped with a forge to make the ideas incandescent, and then worked until they turned into enterprises. Likewise, today's idea places should be equipped with an ideal furnace that heats insights, inspirations and mental representations, and then submit them to the entrepreneurial process. That is how in the Renaissance workshops innovative ventures in art, culture, science, and at their points of intersection were forged.

Family habit, societal norms and educational institutions accustom us to be exposed to in-depth teaching. We enter the well of knowledge and descend it to apprehend more and more in detail. At the bottom of the well, what has been learned to be true is a dogma to which we cling. Isabel Paterson (1943/2003) wrote:

Theories, when they have gained credence, become vested interests. The prestige and livelihood of schools and teachers are bound up in them; they tend toward enclosed doctrine, not open to fresh information.

## 8 Ideators

In the meantime, emerging evidence to the contrary has come into sight. To comprehend and assimilate it, we should go back up the well and come out to see the stars of change. Dogma, now turned into superstition, prevents us from doing so. We move only defensively to consolidate the fundamental tenets of formalised knowledge.

### **Dogmatism Lockdowns Novelties**

Daring and subversive ideators escape the teaching that would confine them to the enclosure of defensive incrementalism and take the path of learning. Having reached the high peaks of ideation, they are the ones who discover the sources of a new knowledge river flowing through creative territories. During the navigation along a course that swerves from the route traced by today's knowledge, those inquisitive minds are impatient to grasp the reality that the 21st century is revealing – which requires intelligence and knowing how to make choices that diverge from the capacity to understand the past century reality. Downstream, the river navigation continues until it brings bunches of ideas to the bank dotted with gardens where the spirit of a new entrepreneurial renaissance is cultivated, with nurseries fed by the waters of that river. In the nurseries, ideas are welcomed by the opportunities that translate them into transformative actions. The events that unfold from ideation are characterised by complex relationships in a chaotic and teeming melting pot of cultures and provenances.

### **Prominent Advocates for Learning: David Hume, Giovanni Papini and Mahatma Gandhi**

David Hume, in the eighteenth century, wrote:

Learning has been as great a Loser by being shut up in Colleges and Cells, and secluded from the World and good Company.

(Of Essay – Writing. <https://davidhume.org/texts/empw/ew>)

#### **1919**

The Italian intellectual Giovanni Papini published a pamphlet, *Chiudiamo le scuole* (*Let's shut down the schools*), arguing that schools should be transformed into experimental labs, where teachers and students can ask previously un-conceivable questions and learn together from mistakes.

In Italy, we have to wait about 100 years to see the birth at the University of Padua of the Contamination Lab. This learning institution gives way to the personalisation of learning. The Lab bypasses the trap of memorisation, emphasises trans-disciplinary exploration, practises trans-disciplinary skills, cultivates divergent thinking, tests creative capacities and trains in empathic