Ideators

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Ideators: Their Words and Voices

BY

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INVESTOR IN PEOPLE

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

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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.

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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.

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Maynooth University, 23 June 2021

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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 (epistêmê) 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 Spinosa, Flores, Fernado 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.

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