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What counts as new?

Abstract:

The paper uses the form of an interview with editorial comments to take a multivocal approach to discussing creativity in research. This allows interrogation, statement and intertextuality to occupy the same dialogic space. Aspects of creativity in research are compared to traditional notions of creativity in studio art and more contemporary claims of creativity in business and innovation. Two visualisations of the relationship between creativity and comprehension are proposed, leading to a claim for a ‘scale of creativity’. Finally, studio art is proposed as a reverse function of academic art owing to being a solution in search of a question.

Biographical note:

Prof Michael Biggs MA PhD FRSA FHEA is Emeritus Professor of Aesthetics at the University of Hertfordshire, UK and Adjunct Professor at the University of Canberra, Australia. He is a Member of the Board of the National Research School in Architecture, Sweden and the Interdisciplinary Expert Panel of the Belgian Research Council. He has been Visiting Research Professor at Presbyterian University Mackenzie, São Paulo and University of Lund, Sweden. He was postdoctoral Research Fellow in Philosophy at the University of Bergen in 1994, and has degrees in both Fine Art and Philosophy. His research into Wittgenstein and visual communication led to his appointment to the Honorary Committee of the British Wittgenstein Society. He was elected as Fellow of the Royal Society of Arts in 1989, and Fellow of the Higher Education Academy in 2007. Michael is a leading international figure in the field of arts research.

Keywords:

Creative Writing – Creativity – Innovation – Knowledge – Scale – Art – Scale of creativity – Artistic research – Knowledge production – Studio art

This paper takes the form of an interview. However, no such interview actually took place. The personae are entirely fictitious, or at least they represent alter egos of the author. This form has been chosen as a thought-experiment because there is a commonplace notion that creative people see the world differently. This is a metaphor, or more exactly: in this case the word ‘see’ is used metaphorically with its meaning of ‘to understand’ rather than literally with its meaning ‘to sense visually’. Creatives do not literally see the world differently: Picasso did not have an eyesight problem that had the effect of distorting his perception of people and things. Similarly, Beethoven was not silenced as a composer when he became deaf as a human being. Conceiving of creativity as a different kind of perception may also imply another commonplace notion: that there are voices in the heads of creative people, and the act of creativity is the act of listening or attending to what these voices have to say. This is also a metaphor; a kind of narrative in which we retell the story of creativity—with all the attendant inauthenticity that accompanies our self-narration—rather than simply manifesting it. In a word, all these are stories we tell ourselves and others about the original thoughts that occur to us.

Inauthenticity also typifies the kind of false and misleading narrative that Wittgenstein was at pains to attack in *Philosophical Investigations*. That too is written in the style of an interview, although the voice of the interlocutor is integrated into the text as the inner voice of doubt rather than as the outer voice of the other. In fact Wittgenstein adopts multiple voices, including the voice of assumption and established philosophy, the voice of doubt and questioning, and the voice of assertion that belongs to a new claim. Furthermore, the posthumous editors, in their own voices, have clarified many of his meta-textual references in footnotes. This multivocal format has been used in the present paper, which adopts three voices representing different roles in the development of a claim: the editor, the interviewer and the interviewee.

The claim in question is that there is a ‘scale of creativity’. How the author came upon this idea is unknown: it was a creative act. The paper makes its contribution to explicit discussions of creativity by making connections to the existing literature via the editorial comments in the footnotes. It also makes a creative contribution to research by suggesting a new hypothesis that is explored through dialogue. As a philosophical trope, the dialogue can be traced back to Plato who adopted the voices of Socrates and his friends, but the technique of the present paper is not Socratic because it does not assume that we have an innate but unconscious knowledge of the truth. Instead, the present paper uses a Bakhtian model of dialogue in which original thought is born out of a struggle between our voice and the voices of others. Whether these ‘others’ are always external others or may be internal alter egos is not explicitly discussed by Bakhtin. Thus the paper uses a narrative form to propose something about the relationship between creativity in the arts, in business, and in academic research, while at the same time providing a meta-text in which the paper’s own originality becomes situated in an historical discourse.

Editorial introduction¹ to the problem of creativity in academic research

The activity of knowledge production has been formalised in university departments over many decades and indeed centuries. The formalised activity is known as

¹ the ‘editorial voice’ appeals to evidence and argumentation — Ed.

academic research and although there are alternatives to this activity, it has the benefit of having an explicit set of procedures by which one might witness ‘knowledge production’ at work. Among the alternatives to academic research are ‘tacit knowledge’ and ‘know-how’. These differ from the former in their emphasis on more everyday ways in which we value our experience as knowledge. By ‘experience’ is meant ‘knowledge gained through doing’, in contrast to ‘experience’ meaning ‘experiences and sensations’. ‘Tacit knowledge’ refers to that kind of knowledge and understanding that cannot easily, or perhaps cannot under any circumstances, be put into words. Both ‘knowledge gained through doing’ and ‘knowledge and understanding that cannot be put into words’ suffer by their very nature from a lack of defined procedures.

By privileging procedural concerns, academic research focuses on a subset of possible knowledge creation. It overlooks the kind of tacit knowledge that is difficult to articulate in words, and it similarly overlooks or diminishes the importance of types of knowledge acquired through doing. Both of these types of knowledge have high status in studio art, although this has not always been the case in earlier periods of art history. In contrast with studio art, academic research in traditional disciplines emphasises procedural knowledge that can be verbally articulated as propositional knowledge, and relies on rationality, argument and analysis at the expense of experience. This has led many critics in the field of creative arts to undervalue what can be learned about creativity and innovation from the process of academic research.² The latter’s incremental approach to how the pool of knowledge in a field is increased frequently results in a modest, rather than inspiring, contribution, reinforcing the former’s disregard for the latter’s methods.

As a consequence of establishing an explicit relationship between the new knowledge that is identified and the existing state of knowledge in the field, the academic researcher ensures that the new knowledge is useful. This could be regarded as a definition of ‘applied research’, but at a meta-level it could be criticised as reducing its methodological capacity to be revolutionary. New academic knowledge is attached to, and extends, what we already know, and does not sit isolated in our conceptual map of the field. Furthermore, the procedures of academic research ensure that the new knowledge is not only situated, but also comprehensible. Knowledge that is completely disconnected from that which is already known risks being not only useless but also incomprehensible. Thus the methods of academic research result in a process of incremental change in which innovation is explicitly connected to that which has gone before, thereby demonstrating not only its novelty but also its position in relation to concepts that are already in use. Studio art, on the other hand, may find difficulties with reconciling this apparently conservative model of knowledge production with the field’s preference for more transgressive forms of originality.³

² perhaps based in Nietzsche’s notion of ‘willful ignorance’ in *Beyond Good and Evil* (1886) — Ed.

³ cf. the conflict of approach between Bolt (2004) ‘The Exegesis and the Shock of the New’ *TEXT*, and Scrivener (2006) ‘Visual Art Practice Reconsidered: transformational practice and the academy’ in Mäkelä and Routarinne (2006) *The Art of Research* — Ed.

The interview⁴

Interviewer:

I am here today at the University of Canberra with Michael Biggs who is a theoretician of research in the creative arts, and I am taking the opportunity to discuss with him the theme of this special issue of *TEXT* entitled ‘Making it new: finding contemporary meanings for creativity’. In the modern world the notion of creativity as not just something artistic but anything that might produce a novel and previously unthought idea, has passed into general currency. In particular, we are going to explore its meaning in academic research. The broad notions of creativity, innovation and the new, have had a kind of resurgence in recent years owing to two factors: the interest of the business world in creativity and innovation, and the rise of academic research in creative arts. The former is perhaps a little vague since, in its quest for the ‘next big thing’, the business sector has experimented with a wide range of meanings and approaches. For example, there is the model originated by the 3M Corporation of giving time for free thinking and individually motivated projects within the workplace, out of which may come fresh ideas that an organisation can exploit.⁵ This implies that creativity needs certain conditions to flourish, such as the provision of time, the provision of physical space, the provision of a stimulating environment, etc. It assumes that many employees possess a latent germ of creativity, and innovative organisations need only supply the nutrients and conditions to foster its growth. It also suggests a democratic concept of creativity that is not restricted to geniuses, but can be found in the workforce more widely. On the other hand, the latter idea that academic research is also creative is less well recognised and is perhaps an activity that connotes staleness rather than freshness. So Michael, may I ask you to describe in what way academic research is also creative, and how, perhaps, it is mirroring what the business world is doing?

Michael:

Academic research is necessarily involved in creativity, owing to the definition of what constitutes academic research. The purpose of academic research is to contribute something to the pool of knowledge, and this pool consists not only of the knowledge of the researcher and his or her immediate team, but the pool of knowledge in society in general, or of mankind. So we are talking about what is sometimes called ‘knowledge production’⁶ or ‘knowledge creation’⁷ rather than merely looking up something online. Personally I find ‘knowledge creation’ a rather strange term because it suggests that the knowledge is invented or imaginary, but what both terms embody is this idea that identifying new knowledge which has not been part of our repertoire before, constitutes a creative act.

⁴ a thought-experiment: ‘our thought itself—philosophical, scientific, artistic—is born and shaped in the process of interaction and struggle with others’ thought, and this cannot but be reflected in the forms that verbally express our thought as well.’ Mikhail Bakhtin, *Speech Genres and Other Late Essays*. Austin, TX: University of Texas Press, 1986, p.92 — Ed.

⁵ known as ‘15 per cent time’ — Ed.

⁶ cf. Borgdorff, H (2011) ‘The Production of Knowledge in Artistic Research’, in M Biggs & H Karlsson (eds), *The Routledge Companion to Research in the Arts*, London: Routledge, 44–63 — Ed.

⁷ cf. Jagodzinski, J and J Wallin (2013) ‘The Contemporary Image of Thought’, *Arts-Based Research: a critique and a proposal*, Rotterdam: Sense Publishers, 19–52 — Ed.

When academics train to be researchers by undertaking a doctorate, one of the criteria they must satisfy is demonstrating that they have made an original contribution to knowledge. But this training is not simply a training in how to think up new ideas—how to have thoughts that no one has thought before. It is a training not only in practical research methods, but also a training in a special form of problem analysis. Prior to that, it is a training in a special form of problem statement, which facilitates a process. This process is a very important part of academic research because it demonstrates various competencies and thereby ensures that the research meets certain criteria on the basis of which we can claim that the resulting knowledge is indeed new knowledge for mankind. What I have in mind is that the researcher is required to undertake a systematic study of the existing field of knowledge, usually by means of what is known as a literature review. In creative arts it might include a review of exhibitions, artworks, pieces of music, creative writing and poetry, etc. So the traditional category of literature review simply refers to a comprehensive survey of what has already been done, grounded in evidence. From the point of view of this interview this has two main purposes: the first is that the researcher needs to become knowledgeable about the field and become an expert, and the second is that on the basis of this survey the researcher can infer where there are gaps in this knowledge. This is known formally as the ‘gap analysis’. As a result of this process we can say that if some knowledge were contributed to this gap, thereby reducing it or closing it, it would constitute an original contribution to knowledge, because we have evidence that it hasn’t already been done before.

Interviewer:

So what you seem to be emphasising is that the creative part comes after a rather systematic and perhaps uncreative process?

Michael:

I disagree that it is uncreative, because the ease with which one can identify a do-able research project depends upon the way one frames the question and this has a creative aspect. Training in making a problem statement can help, but perceiving the benefit or possibility of framing a problem in a particular way is certainly a creative act and provides a fresh perspective.

Interviewer:

So how does this compare to our notion of creativity in the arts more widely?

Michael:

I think we have two slightly different notions of creativity at work here. So far my description of the academic research process sounds more like the description of creativity that we would recognise from the business environment. Perhaps we could

have replaced the word ‘creative’ with ‘innovative’.⁸ The focus is on a clever restatement of the situation so that we can facilitate incremental change. In the creative arts we still suffer from a much more grandiose notion of what constitutes creativity. The call for papers for this Special Issue of *TEXT* makes a connection with Romantic notions of ‘creative genius, vision and originality’,⁹ and I think these ideals are still very influential in our assumptions about how we approach creativity in the arts. I suspect that teachers in all creative fields are faced with keen students who arrive with grand ideas of having a flash of inspiration or a fresh idea that will shake the world, whereas the process of education in those fields is more commonly to supply the student with tools that are reliable in equipping them to do something interesting or consequential in the field. The fantasy is freshness, but the reality is often comparative staleness.

Interviewer:

In other words, the training in this process of creativity has more in common with a craft or an apparently stale set of skills and competencies?

Michael:

Yes. I believe there is a good deal of craftsmanship involved in doing almost anything effectively, so although craftsmanship is less Romantic, it is necessary. I’ve already talked about the academic research process and clearly there is a specific craft involved there. The more competent one is at identifying key features in a problem—the problem analysis, and then framing or reframing the issue so as to reveal what needs to be done in order to address a gap—the more effective one is as a researcher. These are competencies. The word competence to me suggests a craft skill, something that can be learned and perfected over perhaps thousands of hours of apprenticeship.¹⁰ So although it helps to have a flash of inspiration, one cannot really exploit that inspiration without a good deal of craft.

Interviewer:

Can you say more about this relationship? It sounds as though the flash of inspiration on the one hand, and the creative and novel contribution that is made as a result of a process on the other, are very different.

Michael:

In some ways they are and in some ways they are not. Creativity in the context of business and of research is always going to be limited by the requirement that it is an applied form of knowledge. What I have in mind is that both academic research and business development require that the creative input is useful—is applicable. The academic research process ensures this by attaching the novel contribution to

⁸ e.g. Oakley, K, B Sperry, and A Pratt (2008) *The Art of Innovation: how fine arts graduates contribute to innovation* — Ed.

⁹ epitomised in Coleridge’s *Biographia Literaria* (1817) — Ed.

¹⁰ ref. Sennett’s theory of embodied knowledge in *The Craftsman* (2008) — Ed.

knowledge, to a foregoing problem analysis that grounds the result in a particular problem or lacuna. So a by-product of proving that we have acquired new knowledge through academic research is that we know the problem to which this outcome relates, we know what the gap is in knowledge, and therefore we know how the new knowledge is connected to the old knowledge. Through this process, academic research is always going to be linked to something else in a way that is understood. This actually makes academic research a rather conservative process; in other words one is not going to make a revolutionary breakthrough by this method. But of course there are revolutionary breakthroughs in academic knowledge; new theories that break the mould. They come from a slightly different procedure that we can still link to what I have claimed for the procedural conservatism of academic research.¹¹

Interviewer:

Let's put that on hold for a moment. Can you say something in a similar vein about creative arts practice?

Michael:

I think the creative arts process takes us into a slightly different arena. Artists are normally interested in themes, topics or issues rather than specific questions. When one talks to artists about research questions, their reaction is often one of resistance; that asking a specific question suggests that there is a specific answer, and artists are not usually interested in the rather closed business of answering a specific question.¹² From my experience, they are more interested in discussing issues or themes, or testing the boundaries of ideas, rather than trying to find a conclusion. Art in general is not a process of closing down but rather one of opening up.¹³ So the practice, the craft of creative art as it is taught in art schools is not one of framing an answerable question, as it would be in traditional academic research. As a result, great store is set by the artist's ability to completely overthrow our existing concepts and to provoke us with a fresh new conceptualisation of a theme or issue.¹⁴ Taken to its extreme it finds form in the artistic manifesto. Think of the revolutionary and shocking ideas of the Futurist Manifesto: 'war is the only hygiene'.¹⁵ These are shocking ideas resulting in a shocking degree of liberation for the artist and radical, revolutionary, transgressive outcomes as artworks.¹⁶ But contrasting that to the academic process—there is almost a desire, a revelling, to break with any connection with the past. In the academic process we revel in the connection of the outcome to the existing body of knowledge whereas in the creative arts context we sometimes revel in the lack of that connection.

¹¹ cf. the argument between Lakatos and Feyerabend in *For and Against Method* (1999). This book is also based on a fictitious debate which the authors use as a device for establishing positions — Ed.

¹² 'Freedom can exist only where there are no questions and no answers.' Kasimir Malevich, *The Non-Objective World* (1927) — Ed.

¹³ ref. Gadamer's concept of 'excess meaning' *Philosophical Hermeneutics* (1976) — Ed.

¹⁴ cf. Nicolas Bourriaud *Postproduction* (2005) — Ed.

¹⁵ ref. Marinetti *The Futurist Manifesto* (1909) — Ed.

¹⁶ cf. Charles Jencks *Transgression* (2003) — Ed.

Interviewer:

Do you think there is also a difference in the discussion we have around the work? You seem to imply that the researcher can always explain what is going on in the research and perhaps the artist cannot or does not.

Michael:

I would frame this in terms of accountability. The researcher must certainly be accountable for the intellectual property that is claimed. This accountability includes what makes it useful, what makes it novel or original, what is the problem for which this is the solution, and so on. Modernist artists eschewed such accountability.¹⁷ They advocated the idea that the work should speak for itself, and made famous our stereotype of the silent artist who refuses to speak about their work.¹⁸ Certainly the notion that an artwork can be ‘explained’ is anathema to most contemporary practitioners, who fear that if the work can be explained in words then it risks being redundant. This modernist idea is in conflict with the requirement for accountability in research. I don’t think it is irreconcilable in the case of artistic research because the work can lie alongside an explanation, but I understand the uncomfortable association that explanation has with the idea of ‘explaining-away’. We still inhabit a creative arts environment in which the work is largely expected to speak for itself, although I do notice that we expect to hear more from the artist than we might have 100 years ago. When the Turner prize is run in the UK the awards ceremony is broadcast on television and the artists often use the platform to say something about their work, giving rise to a variety of documentary programmes in which we hear from artists in their studios talking about their work.¹⁹ So artists are rarely completely silent these days, reflecting the fact that we are no longer dominated by modernist concepts.

Perhaps the forms and procedures of academic research owe a lot to historical ideas of how the performance should be undertaken. What I’m thinking of now is that the rules for academic research were largely formulated by scientists and philosophers of science and methodology in the 19th century.²⁰ It is only now, particularly with the emergence of performance arts, that we are revising how the practice of doing research and how the performance of a process or the making of an outcome are instrumental in what that outcome is like and how that outcome is used.²¹ So one of the struggles in the field of visual art is that visual art has not hitherto been advanced by academic researchers. Important new steps in visual art were undertaken by artists in the studio through making paintings and sculpture, etc. The same applies in the other creative arts as well: poetry is advanced by poets not by critics. Critics serve an important function in perhaps making connections: the parts left unspoken by the artist in the account of the contribution to the field. So at one level we could think that the arts have been advanced by a combination of artist and critic in which the artist produces the original outcome and the critic helps this to be incorporated into our

¹⁷ ref. Susan Sontag ‘The Aesthetics of Silence’ (2006) — Ed.

¹⁸ e.g. ‘It is a mistake for a sculptor or a painter to speak or write very often about his job’. Henry Moore (1937) ‘The Sculptor Speaks’, *The Listener* 18 August p.193 — Ed.

¹⁹ e.g. Illuminations (2003) *Art Now: Interviews with Modern Artists* — Ed.

²⁰ e.g. John Stuart Mill — Ed.

²¹ cf. Latour, B, & S Woolgar (1986) *Laboratory Life: the construction of scientific facts*, Princeton, NJ: Princeton University Press — Ed.

broader understanding and interpretation of existing objects and their cultural role.²² This allies critics and researchers as having a role in the comprehensibility of new knowledge.

Interviewer:

So do you think the artist has to be transformed in order to make a useful contribution rather than just be a revolutionary?

Michael:

The current fashion for training creative artists in a university, and thereby exposing them to notions of academic research and accountability, is bound to change the nature of their studio practice. Whether those practitioners will go on to be ground-breaking artists or will move into criticism is something we have yet to see. My personal feeling is that research-educated artists are going to form a third category that we have not seen before. I think artistic researchers are going to create new roles and make new contributions that are neither traditional academic research nor traditional studio practice. Indeed I think we will only have a clear understanding of what artistic research is when we know what artistic research does.²³

Interviewer:

Is there any benefit in considering the opposite? What would it mean for someone to be uncreative or to do something that wasn't new?

Michael:

This is the area that was denigrated by the Romantics as being mere craftsmanship. I think it is Edward Said who unpacks the binary of *creatio* and *inventio*.²⁴ *Creatio* is the Romantic notion of originality, of creating something quite disconnected from the past. *Inventio* is the more mundane activity of technical competence that risks being labelled as mere reproduction.²⁵ Taken to its extreme, the novel outcome becomes so disconnected from current knowledge that it is incomprehensible.²⁶ I think we see this in a lot of contemporary arts practice, especially when such production is very fresh and very unfamiliar. Many people find it difficult to understand because it cannot be connected to any previous ideas that we had of painting or poetry. It is evidenced in the resistance of the general public to a lot of contemporary art practice, and the newspapers denouncing contemporary art as incomprehensible or rubbish. But even

²² e.g. Clement Greenberg and Abstract Expressionism — Ed.

²³ cf. Biggs, MAR (2017) 'Doctorateness: where should we look for evidence?', *Perspectives on Research Assessment in the Arts, Music and Architecture: Discussing Doctorateness*, London: Routledge — Ed.

²⁴ ref. Edward Said (1991) 'On Originality', in *The World, the Text, and the Critic* (1991) — Ed.

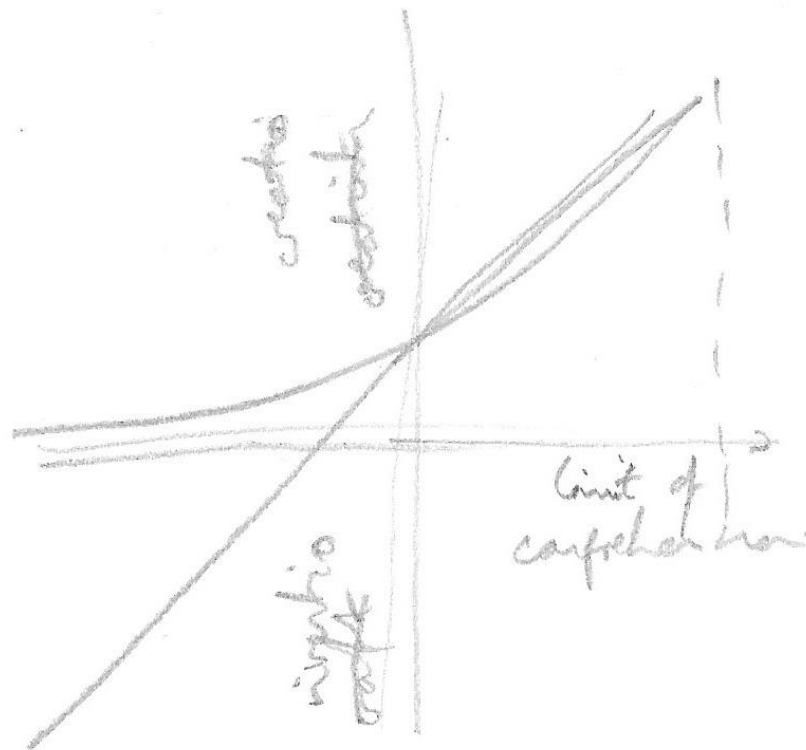
²⁵ Benjamin, W (1999 [1936]) 'The Work of Art in the Age of Mechanical Reproduction', in W Benjamin & H Arendt (eds), *Illuminations: essays and reflections*, London: Pimlico.

²⁶ Winn, M (2012) *Beyond Provocation: how viewers make sense of transgressive taboo art* (Master of Arts thesis), University of British Columbia, Vancouver.

among the well-informed, when something is very revolutionary, we lack any interpretational framework with which to appreciate its value and its contribution.²⁷

I imagine a graph in which, as we move along the X (time/comprehension) axis, creativity goes up on the Y axis. But there is an unreachable limit, or a precipitate fall, because we can only comprehend something as a creative contribution if we can understand the contribution that it makes.²⁸

So there comes a limit, a threshold, beyond which it becomes incomprehensible,



unusable, inapplicable, and perhaps falls into a category of nonsense. That is one way in which *creatio*—creativity—can lose its potential to make a contribution. On the other hand we have Said’s notion of *inventio*. This is the notion of mere craft, of stale copying, of plagiarism. Of course in the world we have a lot of things that are not especially novel but are well-made: well crafted things that are extremely useful. I don’t mean this to apply only to objects such as the well-made smart phone we nearly all carry, but to well-made ideas and concepts that are passed on through school and university education. All of these concepts have been honed by a form of craftsmanship that made them more useful.²⁹ But at its negative end—you invited me to think about opposites, about negativity—then I agree that it becomes banal. We have a notion of copying, plagiarism, theft, and so on, all those things that are opposite to the creativity that we are talking about. So maybe on this graph there is a

²⁷ cf. Marcelo Dascal ‘Understanding Art’, in *Interpretation and Understanding* (2003) — Ed.

²⁸ Michael sketched a graph in a notebook and initially tried framing the concept in terms of creativity [*creatio*]. [The notebook page is reproduced here](#) — Ed.

²⁹ following the discretionary principle of beauty is truth and truth, beauty — Ed.

tail going to the left. On the left-hand end we have low levels of creativity and high levels of craft. On the right-hand side we have high levels of creativity which peak with the absolutely novel but still comprehensible, and then go beyond that and crash into the incomprehensible (Figure 1). What I'm proposing is a 'scale of creativity' and the poles are creativity and craftsmanship, or *inventio* and *creatio* as Said names them.

Interviewer:

Okay, so we have scale. We have a graph that is rising from left to right reaching a peak and then dropping suddenly into the realms of nonsense and incomprehensibility. But where is academic research on this scale in your opinion? My impression is that many creative arts students, who feel negative about academic research, think that academic research is towards the left-hand end of this scale because it is rather unimaginative—it is dominated by processes, procedures, rules and methods. Where do you think it lies?

Michael:

I think it is a much more creative process than you describe. I think I have come to that belief on the basis of experience: both the experience of doing research myself and of supervising and training other researchers. Successful researchers are very creative in the way that they reframe a problem. There is a good discussion of such problem reframing in Schön.³⁰ His description is also useful because it is an example of visual reframing—the process of how an architect is trained to reframe and redraw the situation in order to expose how the problem might be approached from a fresh position and thereby to precipitate a solution. In any form of research the literature review is not an especially creative process, because analysing the literature requires the craft of close reading. However, selecting the literature, identifying what sources might have something to offer—especially when viewed from a slightly novel point of view—is a very creative process. So seeing, in the sense of having a vision of where useful existing ideas might be found that could be reframed, is a creative process. The problem reframing—the problem restatement—is also a very creative process because it can be well-framed in a way that facilitates an interesting response, or it can be poorly-framed in a way that does not. Clearly the mark of a good researcher is being able to see, to envision, how a restatement of the problem might open up new possibilities. But I recognise that the process is also dominated by a form of craft and the requirement for accountability as expressed in the research report or the academic journal article and so on, in which the original contribution is explained. Therefore academic research is midway along this scale of creativity.

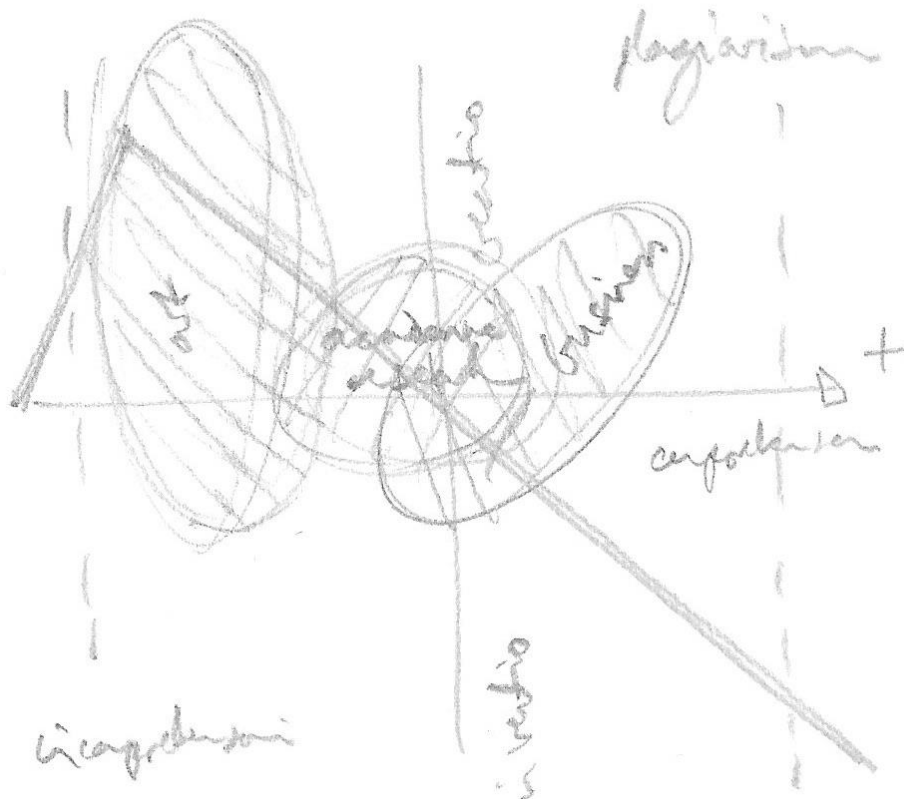
Interviewer:

Can we place our original three concepts on this graph? We began by talking about innovation in business, innovation in academic research, and innovation in creative arts. Can they be set out on this graph, and do they occupy different locations?

³⁰ ref. Donald Schön (1983) *The Reflective Practitioner* — Ed.

Michael:

I think they do occupy different locations on this graph. Business solutions do not have to be especially innovative. They gain their value through their utility. They need to be solutions that can be implemented and marketed, and much of that requires a strong connection to what we already know. I remember reading about the novel idea that the researchers at Sony had for a portable tape player that became known as the Sony Walkman. This enabled one to carry around recorded music, but at that time there was no need for portable music and so Sony had to improvise a context in which it would be needed. In some ways their success was in providing this context, because the actual equipment was not actually especially innovative. Academic research, as we have seen, has an obligation to make an original contribution to knowledge, to provide something that was hitherto unknown. Nonetheless, it needs to be a contribution that is related to an extant issue. This places it further to the left on the graph than business although there is still a requirement that it is connected in some accountable way to existing knowledge. Then, even further to the left, we place creative arts in which no such accountability is required, or is not always required.³¹ Even here it can perhaps only push the threshold of incomprehensibility and not surpass it.



³¹ Figure 2. Michael re-drafted the graph in terms of comprehensibility — Ed.

Interviewer:

Can we go back to something that was left unanswered, which is the idea that academic research, particularly scientific research, is a conservative process. How do you explain scientific revolutions³² in your model of creativity?

Michael:

A scientific revolution, especially in the way that Kuhn describes it, fixes an extant problem: this is the connection with academic research. It is not simply a solution plucked out of the air—a novel contribution to a problem that is unknown. It is the epitome of problem reframing. So Kuhn describes a paradigm shift as being a response to a crisis of theory in which explanations are becoming increasingly complex and increasingly untenable until they are stretched beyond their limit. The current theoretical explanations cannot accommodate some new phenomenon or data and a revision is forced. At that point the revolution—the paradigm shift—comes in by reframing the problem in a completely different way; but nonetheless it is the same problem. So we perceive the revolution because we perceive how we thought theory explained phenomena before the revolution, and then how a completely different theory explains the same phenomena more effectively after the revolution. This is very much the craft model of academic research, in which we are quite clear what it is that constitutes both the problem and the contribution. In this case a paradigm shift offers a more powerful solution or a solution with more potential than our previous theory. Now in creative arts I think it is sometimes a *post facto* rationalisation that helps us appreciate the value of a revolutionary contribution. I don't mean this to be critical or negative. What I have in mind is that it takes some time for critics—and it is normally critics rather than the artist—to give us a handle on something that is new. So perhaps in creative arts the answer comes first and the problem for which it is an answer is manufactured subsequently. This could be a model for creative arts research: perhaps the job of the researcher is to find the question for which the outcome is the answer.

Interviewer:

That is a good point on which to end. I think what you have left us with are two original contributions, if I may paraphrase some of our discussion. The first is that there is a 'scale of creativity' in which, as one moves up the graph of increasing comprehensibility, one first encounters creativity and innovation in business, then that of academic research, and finally that of creative arts. However you have been careful not to describe this in terms of increasing value or increasing importance, as did the Romantics; but in terms of the strength or expressiveness of the connection to what we already know. In other words you emphasise both the novelty and utility, and hence the comprehensibility, of these ideas. Second, you have suggested that perhaps some of the creativity in creative arts research consists in identifying problems for which creative arts has already provided a putative solution. Which seems to me to suggest a nice circularity or synergy between problem-stating, problem-finding,

³² ref. Thomas Kuhn (1962) *The Structure of Scientific Revolutions* — Ed.

solution-claiming and so on. Perhaps this can be a topic for another thought-experiment. Thank you very much for the interview.

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