

Supercritical Creativity

Dr. David M. Berry
Department of Political and Cultural Studies
d.m.berry@swansea.ac.uk

I. Thinking about Creativity

Supercritical Creativity

- I want to think about what Turing (1950) called the ‘supercritical’ mind. But I want to reconfigure the term to think in terms of the generativity and creativity that is available in particular ‘supercritical’ situations.
- Turing described this in terms of an analogy with fission, a supercritical mass is one where the nucleus of an atom splits into smaller parts, creating a nuclear chain reaction.

Supercritical Creativity

*[A] simile would be an atomic pile of less than critical size: an injected idea is to correspond to a neutron entering the pile from without. Each such neutron will cause a certain disturbance which eventually dies away. If, however, the size of the pile is sufficiently increased, the disturbance caused by such an incoming neutron will very likely go on and on increasing until the whole pile is destroyed. Is there a corresponding phenomenon for minds...
(Turing 1950: 443)*

Supercritical Creativity

“There does seem to be one for the human mind. The majority of them seem to be “subcritical,” i.e., to correspond in this analogy to piles of subcritical size. An idea presented to such a mind will on average give rise to less than one idea in reply. A smallish proportion are supercritical. An idea presented to such a mind that may give rise to a whole “theory” consisting of secondary, tertiary and more remote ideas. Animals minds seem to be very definitely subcritical,” can a machine be designed to be supercritical? (Turing 1950: 443).

Similarly, can ‘creativity’ be ‘made’ to be supercritical?

Supercritical Creativity

- This is curiously similar to the notion of creativity as understood by the sociologist Gabriel Tarde in the late 19th Century.
- Tarde develops a theory through the concepts of ‘repetition, opposition, and adaptation’ that he draws from an innovative reading of Leibniz cosmology.
- Thus, repetition refers to perceiving some similarity in difference, opposition for discovering conflicts that are germane to the object under investigation, and the adaptations of these phenomena in their relations of creative production.

Supercritical Creativity

- Tarde argues everything is an association, “everything is a society” (Latour 2002: 118).
- This is the starting point of the analysis of creativity that I want to explore today. I want to conceptually map the attachments and solidarity that is formed within creative cultures.
- The aim of this mapping, like that of any other instrument, is to get rid of most of the initial information, while outlining the features that are deemed relevant to the enquiry.'? (Latour et al 1992)
- Since a map is never a territory, as the saying goes, simplification is a necessary feature of instrument.

Supercritical Creativity

- Tarde uses the notion of associations, of assembling the Social, and stabilizing the social through the use of various standards, methods, techniques and devices.
- Tarde called these ‘imitative rays’ which could spread across a society and, when combined, could produce social change and new invention in a society.
- The imitative rays could therefore be materialized and act as a platform for further social innovation.

Supercritical Creativity

- For Tarde it is the mind of the 'genius' or 'inventor' that is the locus of and site of encounters between different imitative rays, which Tarde calls the 'germ'.
- This is not to say that Tarde was an individualist, rather geniuses, as he saw it, are where ideas so far unrelated are brought together and then produce effects, a meeting point for ideas' flows.
- Thus the individual is not a unit to begin with, rather s/he becomes a unit of action when s/he manages to connect to these flows of ideas.

Supercritical Creativity

- The location where ideas are connected are called 'nodes', these can be thought of as actors that combine imitative rays. Note: these could be non-human.
- Nodes can be geniuses – and 'genius' is the actor that assembles the imitative rays in new ways. This means that the germ is available a posteriori to analysis
- Here we need to go back to Tarde's three categories, which are: repetition, opposition, and adaptation

Repetition

- Repetition - the endurance of forms: the fact that actors need to persevere and survive drawn on an axis of habit, which is repetition at the level of the individual actor, or heredity, which is repetition at the level of the group.
- Tarde argues there are two types of repetition:
 - (1) Habit, where the repetition is of imitative rays within the individual;
 - (2) Heredity, where the repetition is the imitation of others' imitative rays, such as through custom or tradition.

Opposition

- Opposition - the conflictual nature of creativity: the fact that appropriating scarce resources lead to oppositions of all kinds.
- Tarde argues there are two types of opposition:
 - (1) Strife, where the opposition contains two mutually exclusive imitative rays one of which must be selected;
 - (2) Degree, where the opposition contains either an increase or diminution of an imitative ray.

Adaptation

- Adaptation - the adaptive nature of creativity: the fact that, for any being (cell, virus, person, institution), to differ is the only solution.
- Tarde argues there are two types of adaptation:
 - (1) First Degree, where the adaptation is between the elements in a system under investigation, endogenous adaptation;
 - (2) Second Degree, where the adaptation is that which unites these elements in the systems that surround them, exogenous or environmental adaptation.

Creativity

subcritical

supercritical

repetition

opposition

adaptation

habit

heredity

strife

degree

endogenous

exogenous

individual

group

binary rays

modulation

internal

external

Creativity

subcritical

supercritical

repetition

opposition

adaptation

habit

heredity

strife

degree

endogenous

exogenous

individual

group

binary rays

modulation

internal

external

intellectual
property rights

FORDISM

Creativity

subcritical

supercritical

repetition

opposition

adaptation

habit

heredity

strife

degree

endogenous

exogenous

individual

group

binary rays

modulation

internal

external

intellectual
property rights

FORDISM

POST-FORDISM

Creativity

subcritical

supercritical

repetition

opposition

adaptation

habit

heredity

strife

degree

endogenous

exogenous

individual

group

binary rays

modulation

internal

external

intellectual
property rights

commons-based
production

“contract”

“trust”

FORDISM

POST-FORDISM

supercritical Creativity

adaptation

endogenous

internal

First Degree, where the adaptation is between the elements in a system under investigation, endogenous adaptation

exogenous

external

Second Degree, where the adaptation is that which unites these elements in the systems that surround them, exogenous or environmental adaptation.

supercritical Creativity

adaptation

endogenous

internal

First Degree, where the adaptation is between the elements in a system under investigation, endogenous adaptation

Knowledge-based economy (KBE)

Governed by the speed of innovation

exogenous

external

Second Degree, where the adaptation is that which unites these elements in the systems that surround them, exogenous or environmental adaptation.

Creativity-based economy (CBE)

Governed by the speed of invention

supercritical Creativity

adaptation

endogenous

internal

First Degree, where the adaptation is between the elements in a system under investigation, endogenous adaptation

Knowledge-based economy (KBE)

Governed by the speed of innovation

intellectual property rights, incremental improvements, copyleft

exogenous

external

Second Degree, where the adaptation is that which unites these elements in the systems that surround them, exogenous or environmental adaptation.

Creativity-based economy (CBE)

Governed by the speed of invention

revolutionary change, originality, epistemic shift, change in perspective/scale/scope

2. Supercritical Creativity

supercritical Creativity

adaptation

endogenous

internal

First Degree, where the adaptation is between the elements in a system under investigation, endogenous adaptation

Knowledge-based economy (KBE)

Governed by the speed of innovation

intellectual property rights, incremental improvements, copyleft

“contract”

- linear progression of improvements
- education and certification important
- division of immaterial labour
- technology platforms
- controlled innovation
- regulation and market dominance
- creative clusters around themes
- ‘managed’ creativity
- credit and financial innovation

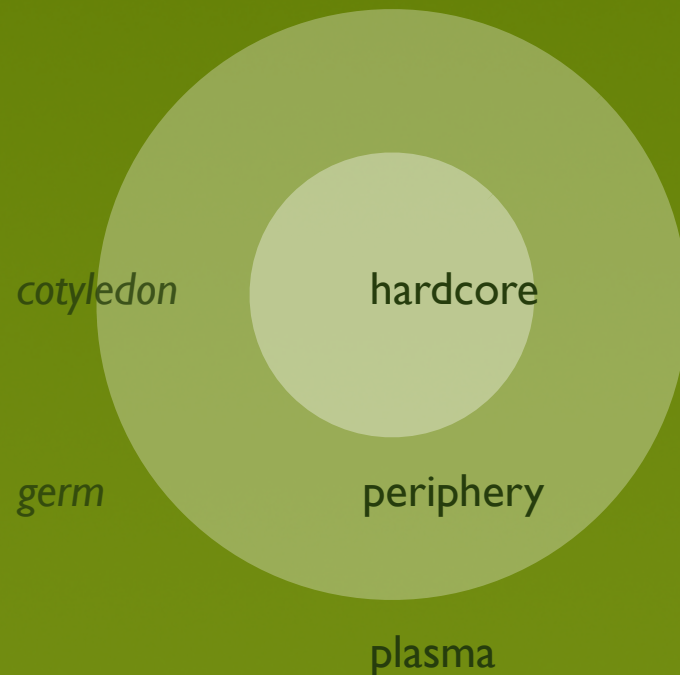
supercritical Creativity

adaptation

endogenous

Governed by the speed of innovation

intellectual property rights, incremental improvements, copyleft



“diffusion model”

model of diffusion restricts the work of elaboration to the limited circle of the creators responsible for the project

majority of actors are passive

emphasising the innovation's intrinsic qualities

only the periphery is a site of innovation/change

supercritical Creativity

adaptation

exogenous

external

Second Degree, where the adaptation is that which unites these elements in the systems that surround them, exogenous or environmental adaptation.

Creativity-based economy (CBE)

Governed by the speed of invention

revolutionary change, originality, epistemic shift, change in perspective/scale/scope

“trust”

- nonlinear progression
- paradigmatic changes (epistemes)
- unity of labour process
- disruptive technology
- artistic movements and breaks
- difference / performance
- internal not yet stabilised
- networked structure
- unmanageable creativity
- *ad hoc* financing: state/patron

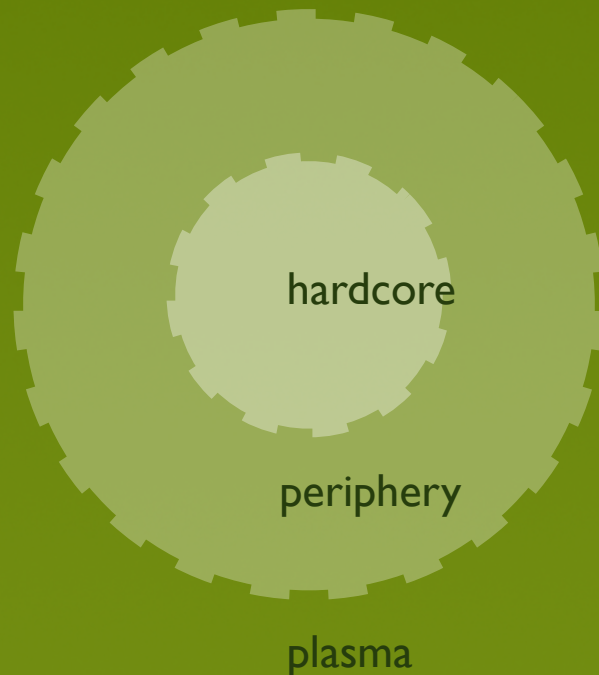
supercritical Creativity

adaptation

exogenous

Governed by the speed of invention

revolutionary change, originality, epistemic shift, change in perspective/scale/scope



“model of *interessement*”

interessement: whereby devices are deployed in order to impose roles and identities upon other actors

this model of *interessement* underlines the collective dimension of invention

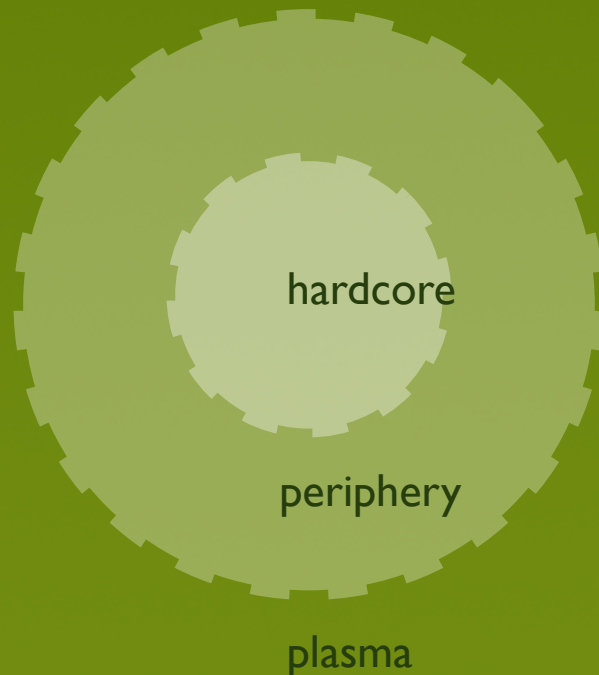
majority of actors are active

future belongs to hybridisation rather than to clearly defined lines of development.

supercritical Creativity

adaptation
alliances

To be inventive a collective or a cluster of collectives must favour interaction, permanent comings and goings, all types of negotiation which allow for rapid adaptation (Burns & Stalker, 1961; Peters & Austin, 1985).



alliances are redistributed in order to transform the project.

new actors are constantly enrolled and bought into the project

supercritical

Creativity

adaptation

what is plasma?

Plasma, namely that which is not yet formatted, not yet measured, not yet socialized, not yet engaged in metrological chains, and not yet covered, surveyed, mobilized, or subjectified (Latour 2005).

where does creativity come from?

there exists a reserve, a reserve army, an immense territory — except it's neither a territory nor an army — for every formatted, localized, continuous, accountable action to be carried out in (Latour 2005).

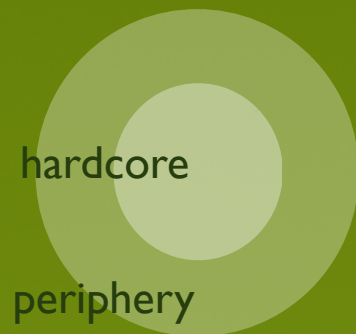
supercritical Creativity

adaptation

a typology of supercriticality

Drawing on the Tardean observation that creativity rests on the stability of a configuration, but overflows from all sides – a source of oscillation.

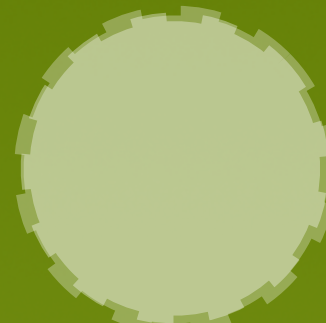
plasma



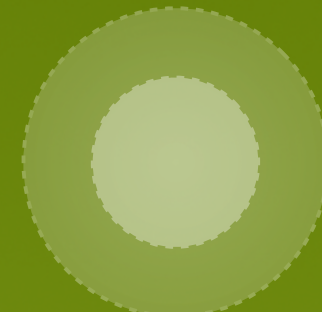
subcritical
disciplinary



unsustainable
supercritical
multidisciplinary



unstable
supercritical
interdisciplinary



stable
supercritical
post-disciplinary

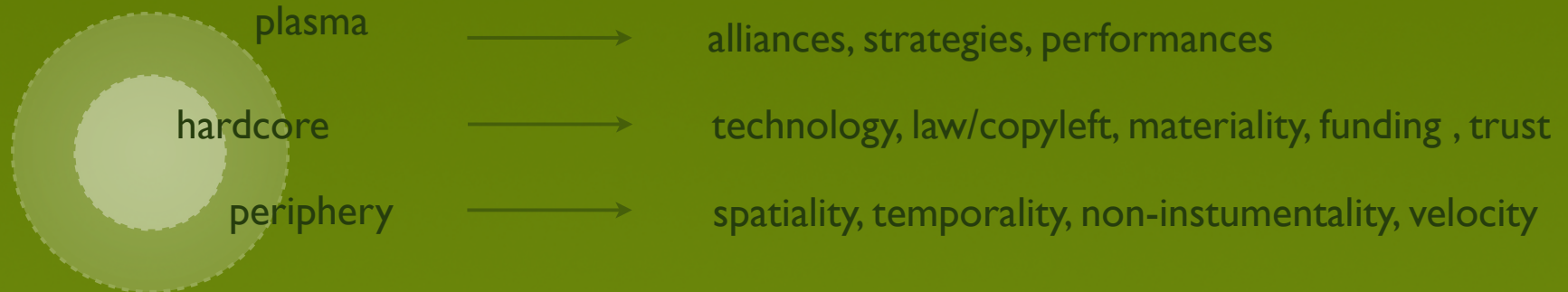
typology



supercritical Creativity

adaptation

“institutionalising” supercriticality



stable
supercritical
post-disciplinary

“uninstitutionalising” supercriticality

revolutionary potential
excess and exceeding boundaries
interstitial and transversal
'real-time' streams and new forms of subjectivity

Future directions...

Future directions...

- Getting at the materiality of creativity has to take into account the 'creative work' that goes into making and maintaining creative gatherings (e.g. assembling, tests, labour, etc) and the networks and relationships.
- Following creativity, means to see how it is developed as a historical process, but also thinking about creativity as differently and multiply articulated – both amongst creators and amongst readers/users.

Future directions...

- The ontology of creativity is specifiable, creators already know what creativity is, *qua* creativity.
 - Through habituation/training/education.
 - Through structural constraints (e.g. institutions/technology, contract)
 - Through a constellation of shared knowledge and practices
- Creativity can be unpacked as a historical phenomena, with a focus on ‘specific creativity’.
 - As against ‘general creativity’
 - Looking at ‘specific creators’

Thank you.

Dr. David M. Berry