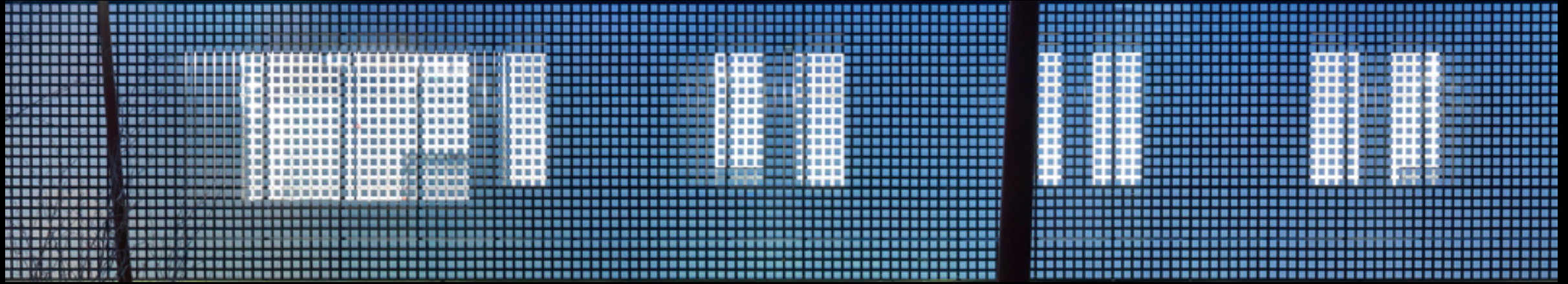


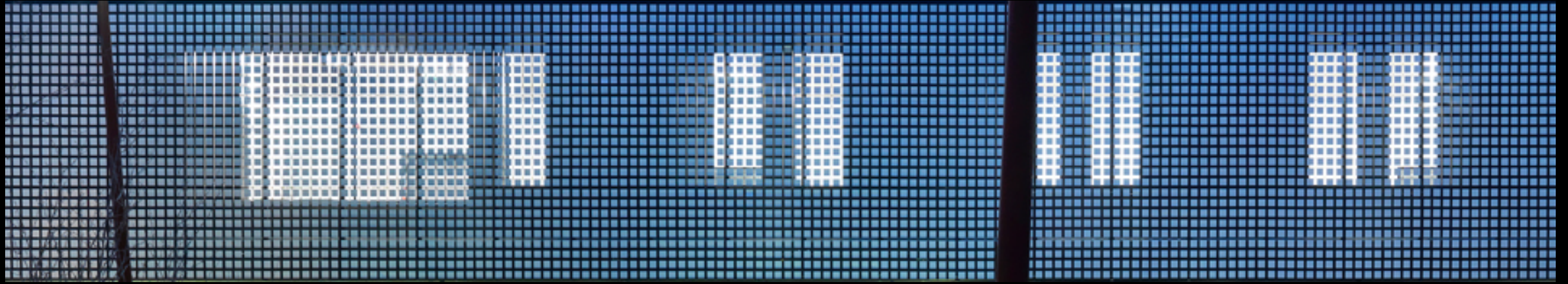
is it time for computational
creativity to grow up and start
being irresponsible?

colin johnson / university of kent



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Schtick

That computational creativity is in danger of getting bogged down in trying to assign “responsibility” for creativity to a particular component of a complex, interactive system, and that in many cases we should see creativity as a systems property of a complex human/computer interaction.

What the Field Needs is Another Definition #irony

Computational Creativity:

“the philosophy, science and engineering of computational systems which, by taking on particular responsibilities, exhibit behaviours that unbiased observers would deem to be creative”

- Colton & Wiggins, 2013

A nice definition, in that it avoids linking creativity to human norms.

What this talk will do

- “This is a well-argued and coherent paper, that picks up on a particular phrase in a recent definition of computational creativity, takes a particular interpretation of that phrase, and proceeds to beat it to death.” (anonymous reviewer)
- Which phrase?

What the Field Needs is Another Definition #irony (redux)

Computational Creativity:

“the philosophy, science and engineering of computational systems which, **by taking on particular responsibilities**, exhibit behaviours that unbiased observers would deem to be creative”

- Colton & Wiggins, 2013

Context

- Primarily “artistic” creativity, broadly construed...
- ...but, might have applications elsewhere.

Responsibility

Who/What is “Responsible” for an Artwork?

- The artist themselves, in their actions and patterns of behaviour.
- The artist’s motivation to create the work.
- Their background knowledge:
 - general cultural background
 - specific things that are relevant to the work
- Context in which the work will be made or exhibited.
- The materials being used:
 - in particular, the resistance/grain of the material and consequent serendipity.

Proximate Causes

- Naively, we might see the immediate action of making the work as the “site” of responsibility.
- (even this is complex; during the making there is a complex interplay of motivation and action).
- We have a cognitive bias towards proximate causes; we tend to believe that the final action in a sequence of causal steps is the “real” reason why something happened.
- Does this bias our understanding of computational creativity towards those things where the computer is responsible for the final step?

Three Aspects of Responsibility

- Materials and tools; and, the complexity of computational artistic materials.
- Background material, search and computational aesthetics; with a return to proximate bias.
- Artistic attitudes towards responsibility; including, deliberate abrogation of responsibility.

Materials and Tools

Materials/Tools...

- Consider an artistic material—a piece of charcoal, for example.
- Does that have any “responsibility” for a particular charcoal drawing?
- ...perhaps in a naive counterfactual sense
- ...perhaps in the sense that it provides certain constraints and affordances
- ...but, in general, probably not.

...collaborators...

- Consider an artistic collaborator—e.g a fellow musician in an improvisatory group.
- Does that (!) have any responsibility for the piece of music produced?
- ...yes, of course—they respond, provide new material, provoke, reinterpret, reinforce, make their own contributions,...

...and what sits between.

- In complex, technologically-grounded art, there is a large space between (mere) “tools/materials” and “active collaborators”.
- Lots of technologies provide “resistant materials” where people interact with a complex system, sometimes guiding the system, sometimes being provoked by the system, sometimes having serendipitous failures, sometimes frustratingly losing control,...
- Is there a blurred space between materials/tools and agentive collaborators?

Example: Sanfilippo's LIES

- Consists of a number of acoustic feedback loops and filters.
- Initial material generated by positive feedback cycles from small acoustic fluctuations in the environment.
- The performer interacts with the system by adjusting the parameters of the feedback loops and filters.

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Responsibility in LIES

- What responsibilities are being “taken on” here by which parts of the system?
- The interaction between the person and the system is complex and sometimes incomprehensible to the person...
- ...but without the person the system would fade to nothing, or rapidly become a single loud feedback whine.
- Is this computational creativity?

“inseparable”

“...the human and machine are considered as inseparable: two autonomous entities which, unavoidably, will influence each other, creating a unique meta-system made up of these two elements. The human and the machine establish a dialectics, a talking through the other, with no attempts of subordination, creating a performance which is the result of their cooperation, where, thus, the performer creates together with the machine.”

- Sanfilippo, 2012

Background Material, Search and New Aesthetics

Background Knowledge

- “No creative system is an island.”
- Some CC systems contain specific background knowledge as part of the system design
 - for example, Cohen’s AARON drawing system contains parameterised algorithms that describe the basic figurative structures.



Search providing Background Knowledge

The image shows a screenshot of a Google search interface with three search queries entered: 'why do businesses', 'why do businesses d', and 'why do businesses di'. Each query has a list of suggestions. Annotations in yellow boxes explain the value of these suggestions. At the bottom, two black boxes cite the sources: 'Q logs: Pasca & Van Durme (2007)' and 'Q Completions: Veale & Li (2011)'.

why do businesses

- why do businesses **advertise**
- why do businesses **sell on credit**
- why do businesses **sell goods on credit**
- why do businesses **fail**

Press Enter to search.

why do businesses d

- why do businesses **do market research**
- why do businesses **diversify**
- why do businesses **develop information systems**
- why do businesses **downsize**

Press Enter to search.

why do businesses di

- why do businesses **diversify**
- why do businesses **discount loans**
- why do businesses **differentiate their products**
- why do businesses **dislike uncertainty**

"Why" questions are a rich source of tacit norms that are widely assumed to be self-evident

Search engine query completions are a rich source of no-brainer "Why" questions / norms

Q logs: Pasca & Van Durme (2007)

Q Completions: Veale & Li (2011)

Is this Computational Creativity?



Google
image
search for
“Secure”

Is this Computational Creativity?

- Is my decision to assert that this is an “artwork” the key responsible act?
- But I have done almost nothing!
- What about all those people who provided the images? What about all the people who tagged the images? What about all the computational infrastructure that enabled this to be readily brought together? What about all the algorithms that enabled this?

Proximate Causes (Redux)

AARON



“Secure”

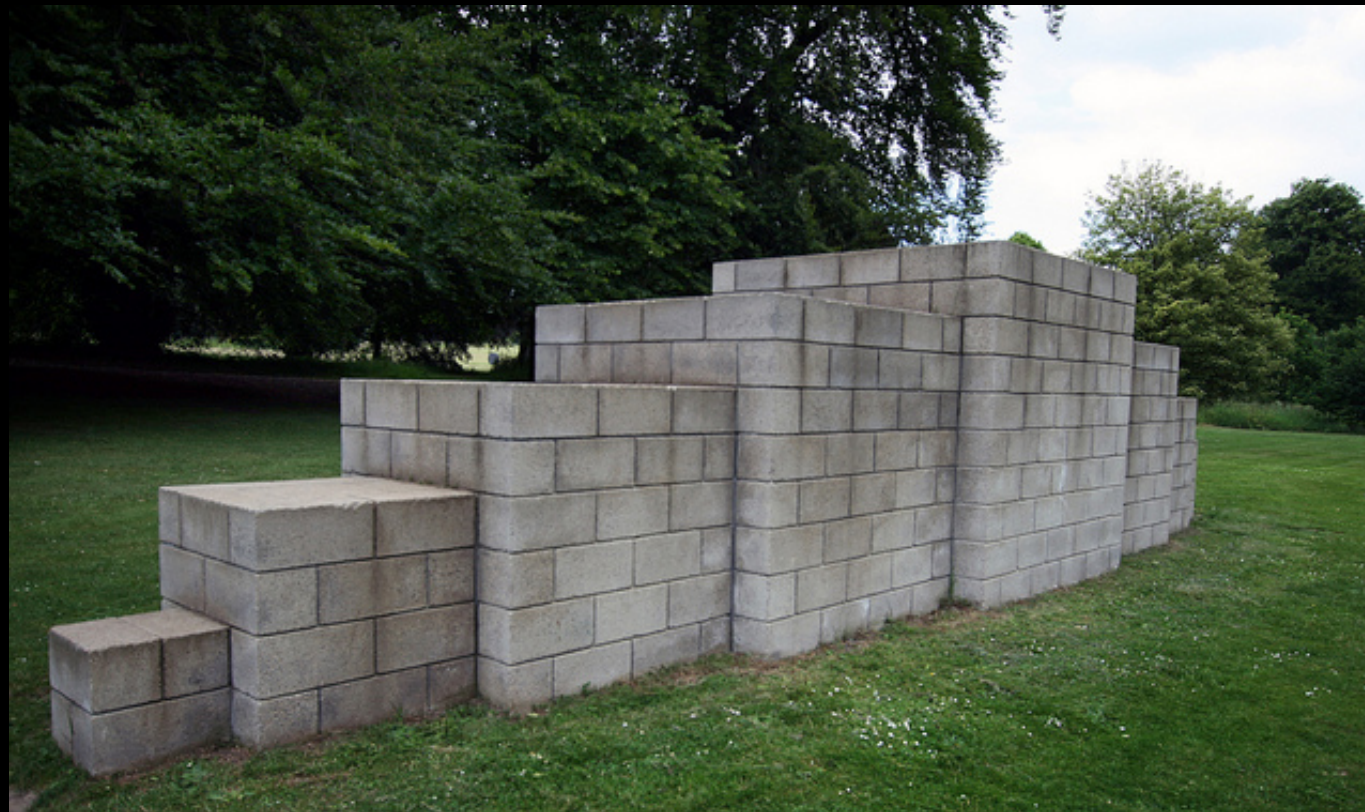


The New New Thing

- Is creating *new aesthetics* something that we can expect from computational creativity...
- ...perhaps even if the particular artwork isn't created by computers!
- What if the contribution of a computer to a creative act is inspiring an aesthetic idea?
- Let us think about what such an aesthetic idea might look like...

Syntactic Mass

We are accustomed to artworks based on massing simple, similar objects together...



Sol LeWitt, *123454321*

Semantic/Social Mass

...but what about massing together works that are dissimilar, but which have some kind of other social or meaning connection...

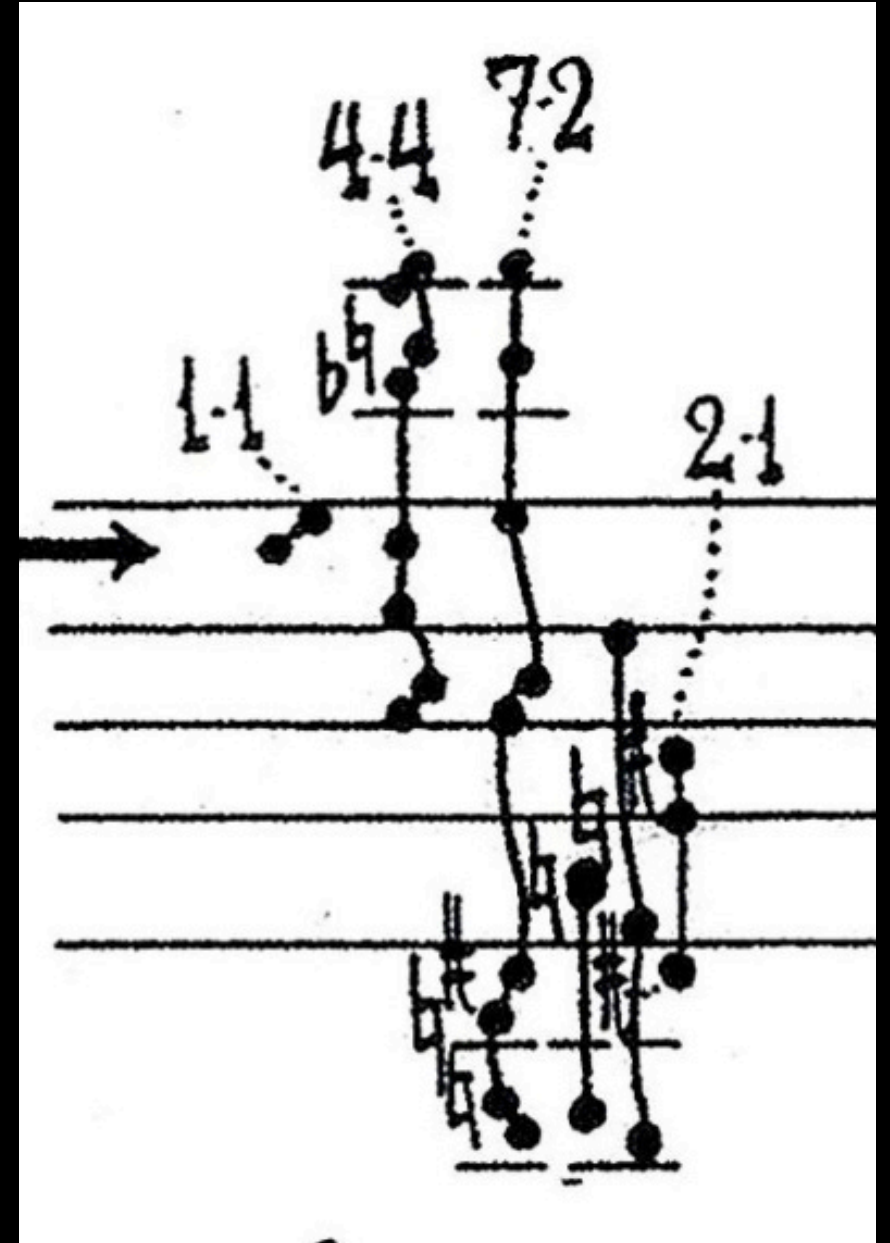


(Jennifer Mills, *What's in a Name?*)

Giving Responsibility *Away*

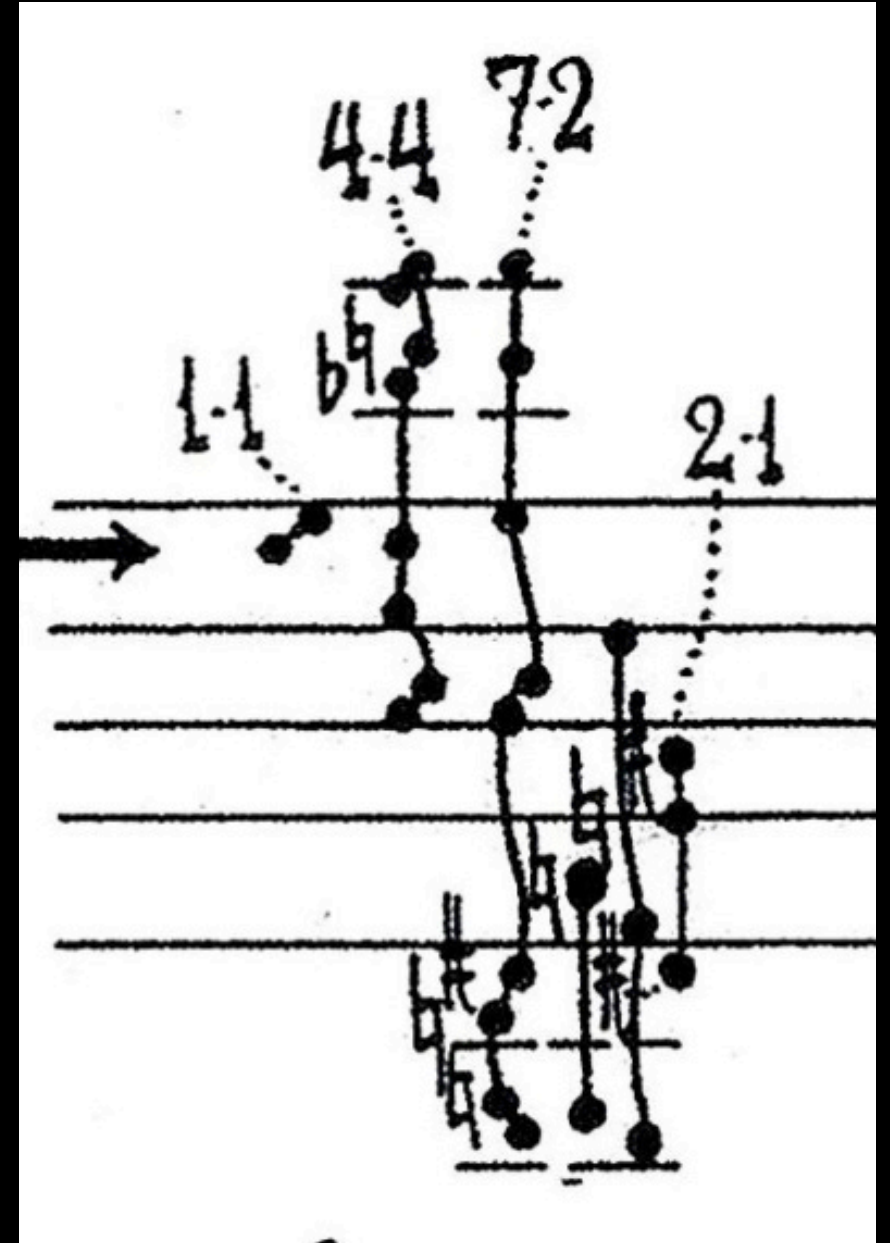
Giving Responsibility Away

- One way in which humans have been creative is to *give responsibility away*.
- For example, *Atlas Eclipticalis* by John Cage transcribes star maps onto music staves.
- Moving from *sonic outcome* to *performer action*.



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Giving Responsibility Away

- Perhaps this is still a creative act, but at a higher level;
- Iannis Xenakis, for example, has talked about (part of) his practice as a composer as consisting in defining parameters of generative algorithms rather than defining each individual note.

Ostensive Creativity

- “listing artefacts is never going to be creative” (talk yesterday)...
- ...but, there is a whole genre of “ostensive creativity”!
- e.g. Kenneth Goldsmith’s *Uncreative Writing*:
 - *The Weather*: a transcript of a day’s weather reports.
 - *Fidget*: an attempt to write down every movement made during one day.
- e.g. Ellie Harrison’s lifelogging projects:
 - *Eat 22*: For one year and one day everything eaten was digitally recorded.
 - *Tea Blog*: For three years, Ellie recorded what she was thinking about every time she had a cup of tea.

Ostensive Creativity

“The idea becomes a machine that makes the text...Uncreative writing is only good when the idea is good.”

“a poetics of the moment, fusing the avant-garde impulses of the last century with the technologies of the present, one that...obstinately makes no claims on originality.”

- Kenneth Goldsmith

Could a computer system decide when
“the idea is good”?

What the Field Needs is *Yet Another* Definition #irony #humour

- Is “responsibilities” the right word?
- Perhaps...providing we are happy with multiple sites of responsibility.
- Or perhaps a different emphasis:
“the philosophy, science and engineering of computational systems which, **by playing a role in an interactive system, contribute to that** system producing behaviours that unbiased observers would deem to be creative”
- ...which also allows “creativity as a service” etc. to sit more comfortably with the definition.

Questions in lieu of a Conclusion

- Does an actor have to be aware that is it contributing towards a creative act to have some responsibility for creating it?
- Is there a hard line to be drawn between “collaborative actors” and “materials”?
- How can we escape the proximate-cause bias?
- How can we make CC systems that, by design, have an “inseparable” link with people’s activity?
- What might it mean for a creative computational system to “throw away” its responsibilities?
- Does “taking on certain responsibilities” do any more work than the more neutral “playing a role”?

Questions/Comments



leftovers to be reheated

- relational creativity - Bourriard
- what might a computer system be like that reflects “labour” in the same way (!) as Weiwei, Gorman and Mills?
- Manovich and quantitative transformations that produce qualitative changes