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Derivatives
Replication and (auto)plagiarism in the social sciences

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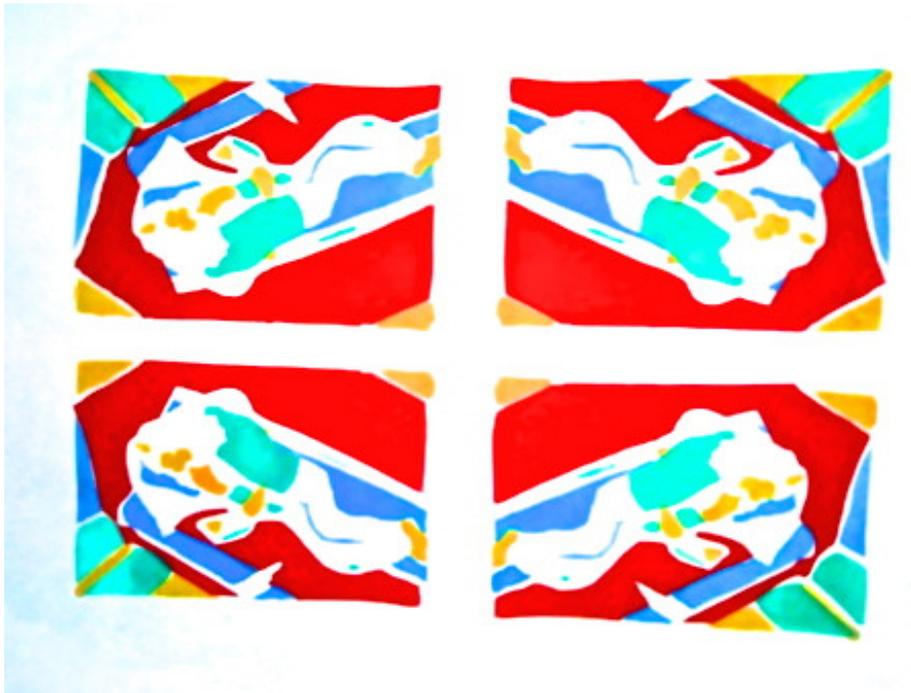
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Doris leest (Doris reads) Silk screen on board 2012

Abstract

This working paper reports on the travelling exhibition “Derivatives”. This exhibition investigates the issue of originality in the context of (self) plagiarism and replication. The different views in the Arts and the scientific discourse form the point of departure for discovering how ideas that are identical can still be completely different and new, but also that ‘original’ works of art can be repetitive reproduction.

Keywords

Plagiarism, replication, academic fraud, arts.



Tête perdue (oil painting 2003, etching 2010)

Introduction

This working paper reports on the artistic science (or scientific art) project Derivatives that was organized in the Netherlands in 2012.¹

The results of the project have so far been presented at Nyenrode Business University as part of the festivities of the inaugural lecture by professor Van Gorp and at the Institute of Social Studies as part of the festivities of the 12th lustrum. Future locations of the exhibition are foreseen at Erasmus University Rotterdam and the University of Tilburg.

The contributions to this working paper were written on the occasion of the ISS Lustrum exhibition and appeared in Dutch in *NRC handelsblad*, *NRC next* en *Economisch Statistische Berichten*.



¹ Photo credits: John Steenwinkel.



Stubborn (silk screen 2006, oil 2012)

Spocanian noises – Rolandt Tweehuysen and Joost den Haan²



Good afternoon, ladies and gentlemen. I would like to start by correcting a small error that has crept into the announcement of this event in the Dutch economics weekly *ESB*. There, I'm referred to as an *atomist*, while I'm simply a *language anatomist*. And in this capacity I'm a Spocania watcher, fascinated by that country's linguistic peculiarities. But if you want to know what the budget deficit is in Spocania, you may turn to Professor van Bergeijk – for I hear that even in Antwerp he is regarded as an authority on the Spocanian economy.

Now, in this talk I mean to refer to Van Bergeijk's latest *ESB* column (Van Bergeijk 2012c). For those who haven't read it: it suggests that the 'originality focus' of the social sciences tends to stimulate fraudulence. And that we may prevent fraud by having all Ph D candidates replicate one important article to see whether their findings accord. A translation of a previous version of his column was published earlier in the Spocanian economics journal, *Ekonomij ur Đónopros*. Also, the formidable Professor Mavy Cruss-Molli, whom we shall hear more about later on, referred to it in her widely read blog.

I quote:

Gress sen vone ef – ef yrreproduseros enn testôsta ur datas yatecos eft Popperianise fâlsifieramer-ÿrmannos kurrelira beri lelperre eft ÿrkô efecce kaf eft akademise juftos. [...] Jazy, zerfelira tygtja teâk drakâsiy declaros, ef kûra-lâprôfa fes prifjiof Van Bergeijkex ef izequff pelira Opârg fitfara eft ksvurf, loke eft nucce utfiner.

² Speech for opening Peter van Bergeijk's 'Derivatives' exhibition (The Hague, October 10, 2012)

As a prominent Spocanian economist, Mavy Cruss-Molli (called ‘MCM’ in the press) is worried about academic fraudulence. But let me first translate these Spocanian noises for you:

I agree – reproducing tests and data could amount to a Popperian falsifiability exercise that may have a wholesome effect on academic validity. Indeed, in the face of such a momentous statement, the art argument in professor van Bergeijk’s column *Originality as a Millstone* seems a mere digression.

The Cryps and Cortesj Case

Academic fraud is an international phenomenon. All Spocanians know the case of Cryps and Cortesj. In a paper from 1969, these sociologists showed that Ergynnic burial rites on the isle of Garos were disappearing fast. Spocanian governments have always been keen to keep rural traditions alive. So an extra dollop of subsidies was administered. And indeed their 1978 study established many more burials, but also showed that funeral expenses were on the rise. Hence another dollop of subsidies, as much as 750.000 hercos a year (about 1.000.000 € today). New figures in 2001 proved that island burials flourished, and also that affluence was on the increase. But when in 2008 Ergynnic burial figures really rocketed, the government epidemiologist sounded the alarm. He envisaged overspilling graveyards and an island population on the verge of extinction. Serious investigation revealed that Cryps and Cortesj – the latter a native of Garos – had rigged their figures: Ergynnic burials were not disappearing in 1969, nor were funeral expenses going up in 1978. They had concocted these findings together with local authorities, and had been rewarded with luxury country homes and annual revenues. Subsidies indeed made all families eager to have at least one fictitious burial a year. And of course many started overdoing it. Burials were faked on a large scale, and even brought lots of tourists to the island. By the time all this was discovered, Cryps and Cortesj had both deceased. But the national outcry still reverberates.

ISS and Spocania

Back now to Mavy Cruss-Molli. Some of you may have encountered her name a while ago in connection with a ripple in the Dutch economics pond. A ripple that caused a big wave in the Kingdom of Spocania – about 1600 kilometres from here. I am referring to the ISS’s ‘refusal of a lecture’ by Mrs MCM *and* – worse – also one by the Spocanian Finance Minister (Van Bergeijk 2012a,b). In Spocania, there were hysterical letters to the press in which the Dutch in general were verbally drawn and quartered. And there was mud-slinging as to who was responsible for wanting to cast sound Spocanian insight before foreign swine. And Mrs MCM was thoroughly miffed too. For her, the Netherlands temporarily became a no-no.

Judging by her recent blog, she has now become ‘unmiffed’ again. At least, the Netherlands is no longer unmentionable. So, is it ‘let bygones be bygones’ then? Well, I wonder whether we might not detect a lingering displeasure in her words about ‘the art argument as a mere digression’. It sounds a bit

uncalled for, and the gist of it is that the simile ‘as in art, so in science’ (which the column presents) is a shaky one.

May she not have a point though that science is science and art is art, and ‘ne’er the twain shall meet’? I doubt it. For, whatever their difference, there is one thing they fundamentally have in common: both are firmly rooted in the human imagination. Like an insect extending its feelers into the world, the mind extends its activity into the unknown, arriving at new visions. Thus, science and art are kindred spirits. Without imagination as a prime mover, we would be like ostriches burying our heads in the sand.

So I’m afraid Mrs MCM’s comment does sound a bit like ‘sour grapes’. Still, we must not be too hard on her. For on the other hand, there is the rigid seriousness of the ISS. It is they who, dancing to the ‘tune of the times’ in this country, couldn’t care less about either imagination or foreign connections. Spocanian feelings are but thin air to the ISS. So, we must courteously admit that Mrs MCM has at least a right to feel slighted.

Enough now. Having nattered my way up to this point, I fear I may have stretched your patience to the utmost. All in all, this is a happy occasion, so I will no longer keep you from the remarkable paintings out there. I hereby declare Peter van Bergeijk’s show ‘Derivatives’ open – or to put it in Spocanian: *Kusamiluft gress declare Peter van Bergeijkex ef ekspo “Qu’errepósta” lo tuffes!* Go and feast your eyes, and savour the food for thought when you find any!

Enjoy!



Vlinderbloemen (Butterfly flowers, acryl and oil on canvas 2003)



Tulpentweeling (Tulip twins, oil on canvas, 2004)



Eye sea/l see (oil on canvas 2012)

An artfully replicating professor – Karel Berkhout³

Peter van Bergeijk is professor and visual artist. Recently he organized a temporary studio in the cellar of his academic institute. “I wanted to make a very big oil painting and needed a large room” van Bergeijk says, “and my students were happy to discuss their research papers while I was painting”. The painting that portrays a group of ostriches walking away from their friend is not original. It is a copy of a silk screen print that van Bergeijk made four years ago: “But this time with many more colors”. You can see the painting at van Bergeijk’s exhibition *Derivatives* with paintings and prints that are all copies of earlier work. With this artistic copying van Bergeijks wants to send a message to his scientific colleagues: “copy more and replicate the work of other scientists”. His activities are controversial to say the least because (self) plagiarism is seen as a relatively mild form of academic fraud. Plagiarism is one of the three capital offences – in addition to massaging and imagining of data. Van Bergeijk, however, thinks that copycats and replicators can help to fight scientific fraud.

The debate about academic frauds started a year ago when it became known that Diederik Stapel, a professor of psychology at Tilburg University, had made up the data for a great many published scientific articles. Early October 2012 the news broke that articles by Don Poldermans, an internist at Erasmus University, have been based on scam data. It is often said that fraud is a result of the publish or perish culture; scientists have to publish a great many articles because academic appointments and subsidies to a large extent depend on their scientific productivity.

Van Bergeijk, however, argues that the inclination to massage and make up results is a consequence of science’s addiction to originality, the pressure on academics to be novel and innovative. “An article that supports earlier findings has a low chance of getting published even though such a confirmation can strengthen scientific knowledge”, van Bergeijk says, “Articles with unexpected and preferably breaking news features have a much higher probability to get published.”

As a consequence scientists are not encouraged to check and replicate their colleague’s work. This is relevant because replication (redoing earlier research) is an elementary check in science. A finding that cannot be replicated must be seen as an incidental outlier – or perhaps it is the result of academic fraud. “In physics replication is the norm” van Bergeijk adds, “in the social sciences it is rather an exception.”

So scientists should follow the example of the visual arts. Self replication is accepted as can be seen from Van Gogh’s “Sunflowers” or the Marilyn Monroe silk screens by Andy Warhol. Copying of the work of other visual artists is also not an offence; van Gogh for example copied Millet’s works of

³ Kees Berhout, ‘Een kunstzinnig kopierende hoogleraar’ *NRC Handelsblad* 11 oktober and 12 oktober 2012, p. 24 with a derivative in *NRC Next*.

art. “In the arts a small personal twist is enough to transform a copy into an original”.

In his work sometimes minimal changes suffice “With lithography accidental factors can make each print different”, says van Bergeijk. While etching, acids biting the copper plate offer many exiting chance opportunities”.

The ‘plagiarism prints” will first be shown in Van Bergeijk’s Institute that is part of Erasmus University. “Next the exhibition travels to other universities where I hope to provide food for thought for my fellow scientists”, van Bergeijk says, “because a lack of originality may be the saviour of science”.



Dame bij het rode raam (Lady and red window, lino cut 2009)

Originality as a millstone – Peter A.G. van Bergeijk⁴

New ideas are essential for human advance. New medicines, new materials, new production processes, new insights are the basis for progress and thereby for welfare. It is thus quite understandable that originality is the Holy Grail of Academia. For some scientists, however, this quest has definitely become a millstone.

In the Netherlands in 2011 and 2012 a number of leading scientists have been exposed that massaged and even made up their data. This research was published in leading refereed scientific journals, used in evaluations of research by funding organizations and served as a basis for hiring and promotion. The reaction from the Ivory Academic Tower was a predictable mantra: this is an incident and the self-purifying academic procedures have been sufficient. In my opinion, however, the Dutch cases are more than incidents and point to the fact that the pressure (if not duty) to be original has become too strong. This assessment is not based on the professional urge to publish or perish that some have pointed out to be the driver of academic fraud. I believe that something else is at stake: the low esteem and valuation for vital but less creative craftsmanship that forms the basis for solid, replicable and reliable scientific results. Every academic author that has ever dared to use the word replication in an article, knows how peer referees react: the article “does not add value”; it is “not new”. The strive for originality implies that extreme and contradicting results stand a better stand to get published and this publication bias has been confirmed in many meta-analyses. Finally “non results” cannot count on any mercy from scientific journal editors.

Why are we so concerned with originality? The contrast with the Arts is striking. Admittedly, to many laypersons art and originality are almost synonyms, but a closer look reveals that imitation, copying and self-plagiarism are perfectly acceptable in the Arts: some styles and themes are replicated, recycled and “reinvented” ad infinitum. The ideal of originality is a modern concept. Before the Romantic Movement, copying the Master (works) as close as possible was the highest norm. It is in this same artistic tradition that exiting works continue to be topics for study and further development and change. Munch’s Srik is a well-known example but if you google “gogh+chair” you will see how the blue chair re-emerges in Van Gogh’s work and in modern art.

The travelling exhibition “Derivatives” offers the scientist a mirror that reflects how the same idea can be valuable, different and new even if it only repeats what has been done earlier. It is essential that this insight recovers ground in the social sciences. The pressure to always be original is not only too strong because it creates stress and increases the risks of academic fraud – the deifying of originality is also counter productive. Good science after all should be replicable, replicated and checked. The problem, however, is that the key activities of repetition and checking are not sufficiently appreciated due to our addiction to originality. Therefore incentives need to be created (Bergeijk 2011;

⁴ ‘Originaliteit als molensteen’ ESB, 2012, *Economisch-Statistische Berichten* **97** (4644), p. 584.

Koole and Lakens, 2012). This is a realistic goal also at a national level. Oblige PhD candidates to check and replicate one key article as part of the thesis. Require in funding applications as well as in academic hiring and promotion procedures that applicants provide concrete evidence that earlier research has been replicated. Scientific journals should create a digital replication corner. Academics should quote both the original source and the replications of that source.

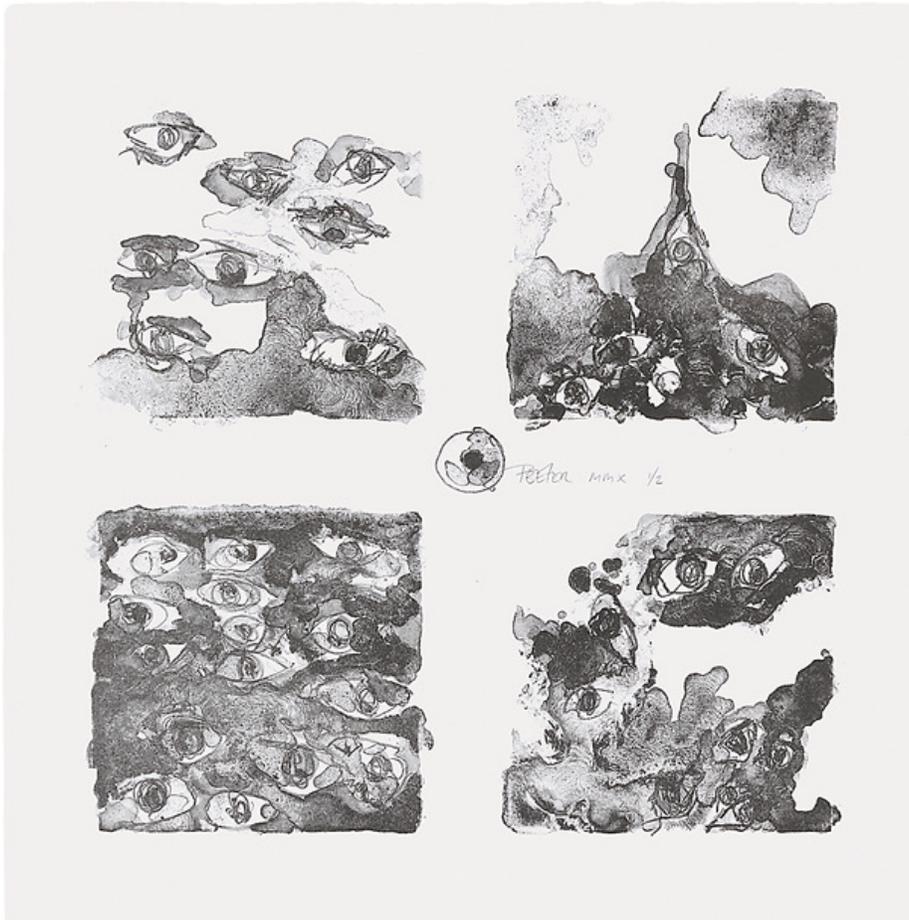
Lack of originality is the life buoy of excellent research.



Somewhere in the desert (Oil on canvas 2003 and lino cut 2007)

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Eye pressure (Oogdruk, Litho 2010)