

*I won the maths prize at school*

James Johnson-Perkins in collaboration  
with Dr Conor Lawless

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*'I won the maths prize at School'*

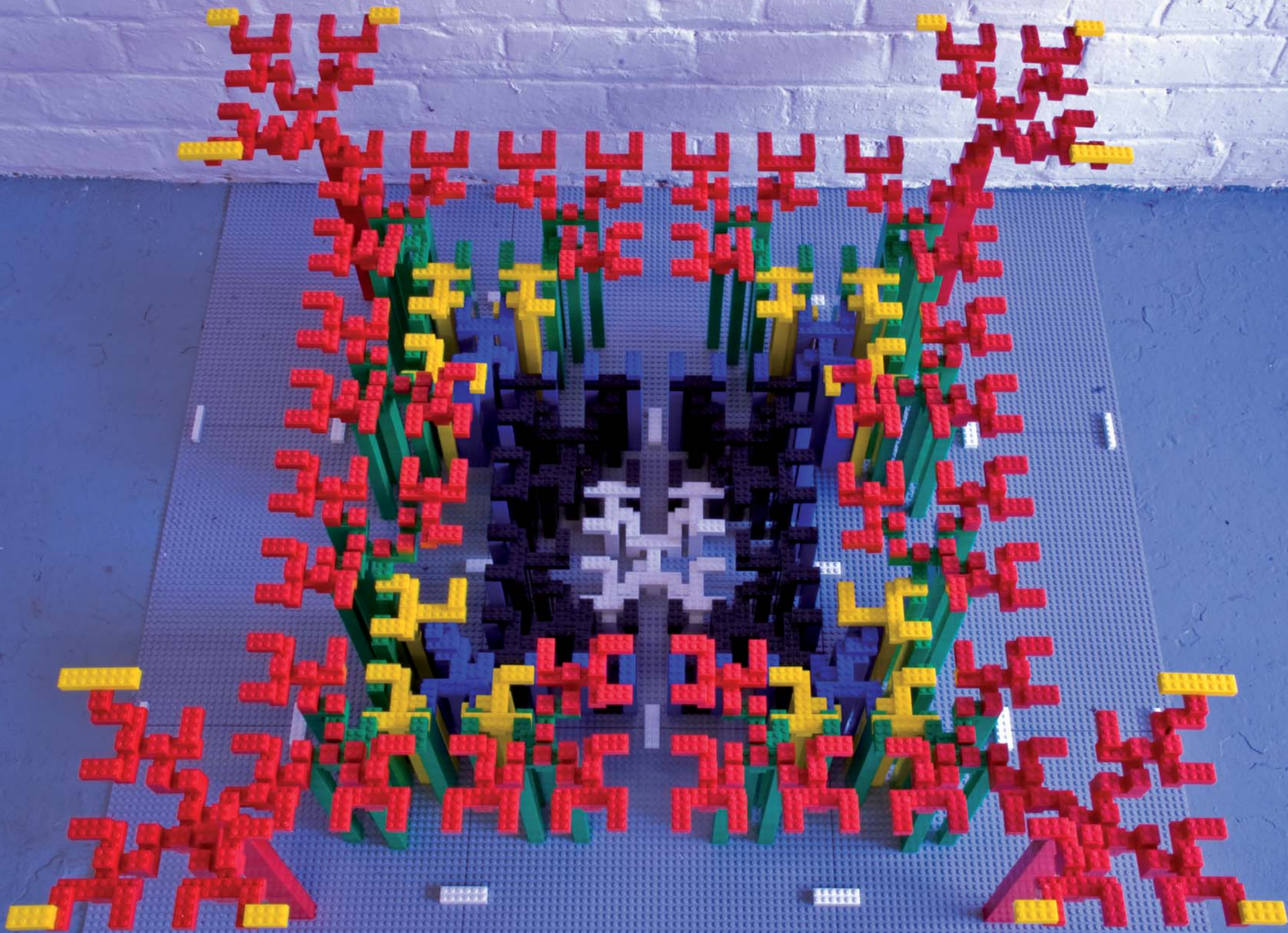
Foreword

This third and final project in rednile's New City Programme presents a new kind of collaboration. Past rednile projects have explored the relationships that occur between art and artists, art and business and art and the public. *'I won the maths prize at school'* is an example of an increasingly popular combination, between Art and Science, artist and mathematician, intuition and logic that combine to uncover hidden beauty held within each subject.

The idea behind this project was to provide regional artists, or an artist group, a two week residency working in a new inspiring space and environment and just let creation take its course, culminating in an exhibition of new work. The focus on collaboration within the creative process was chosen due to the many positive experiences that have occurred previously in similar rednile projects which identified that the creative experience can be much more rewarding if there is more than one person involved; ideas can be exchanged and challenged, questions are raised and knowledge is shared. The residency period was open to the public (as in past projects) as this allows the opportunity to answer questions, discuss ideas and demystify artists and art making.

So the resulting experience from this new work created by Johnson-Perkins and Lawless, is a one where Maths comes alive, revealing its underlying creative process.

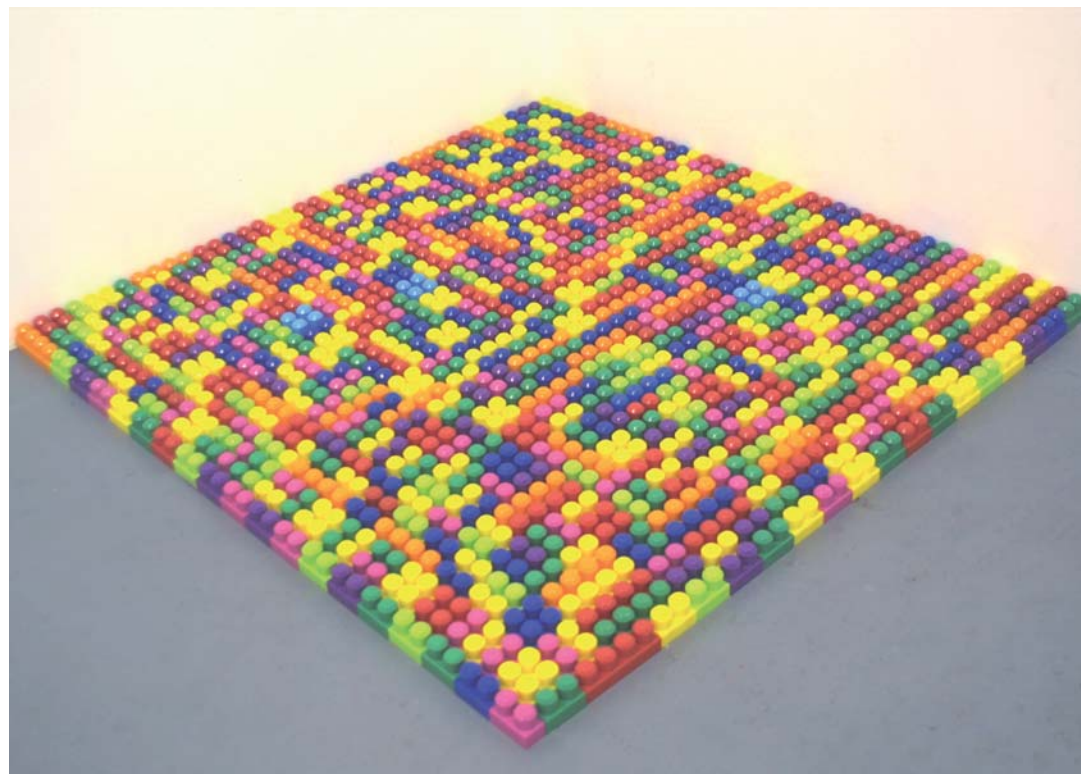
Mark Hodgson, Board of Directors, rednile Projects Ltd  
September 2007

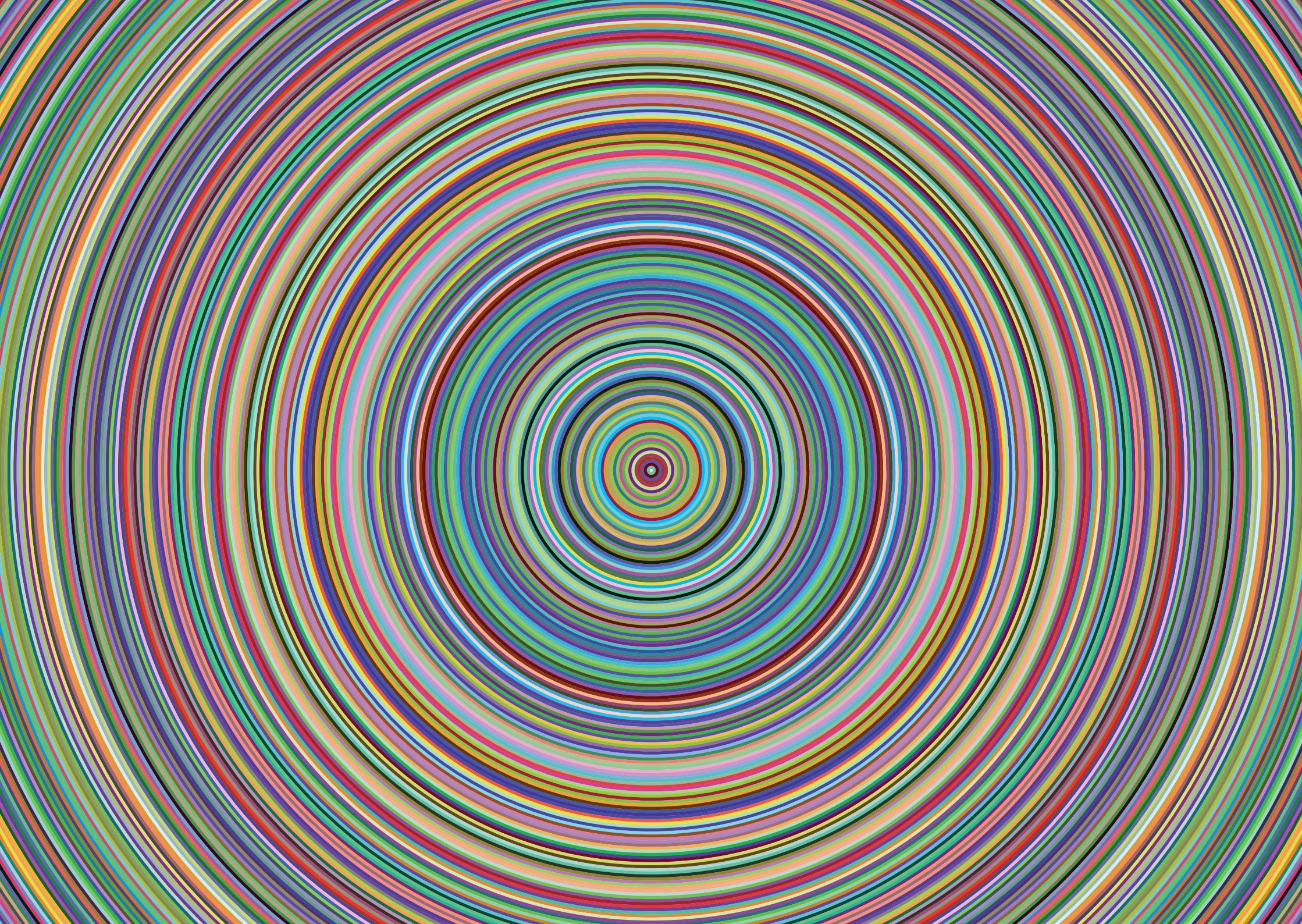


Collaborations between artists and scientists often produce work which neither the artist nor the scientist would have dreamed of. Although there are massive tracts of common land between the fields of art and science, it is in a way of looking at the world that artists and scientists approach their work differently. Visual Artists often work with notions of what constitutes a finished piece in their mind, while practitioners in the field of sciences work with a process where rules and methodology are to the fore. Johnson-Perkins' and Lawless' collaboration at the rednile space throws light on these different methods of working, while also producing the potential for some beautiful artworks that demand both scientific and artistic scrutiny.

For their period of residency in the rednile space, Johnson-Perkins and Lawless will further explore questions they have begun to ask in the realm of chaos and randomness. The Fibonacci numbers are used as the basis for creating colourful grid of numbers, an exercise in concentration as much as a dazzling set of figures. Recently their video works make use of the concept of the automaton, utilising James' penchant for Lego constructions.

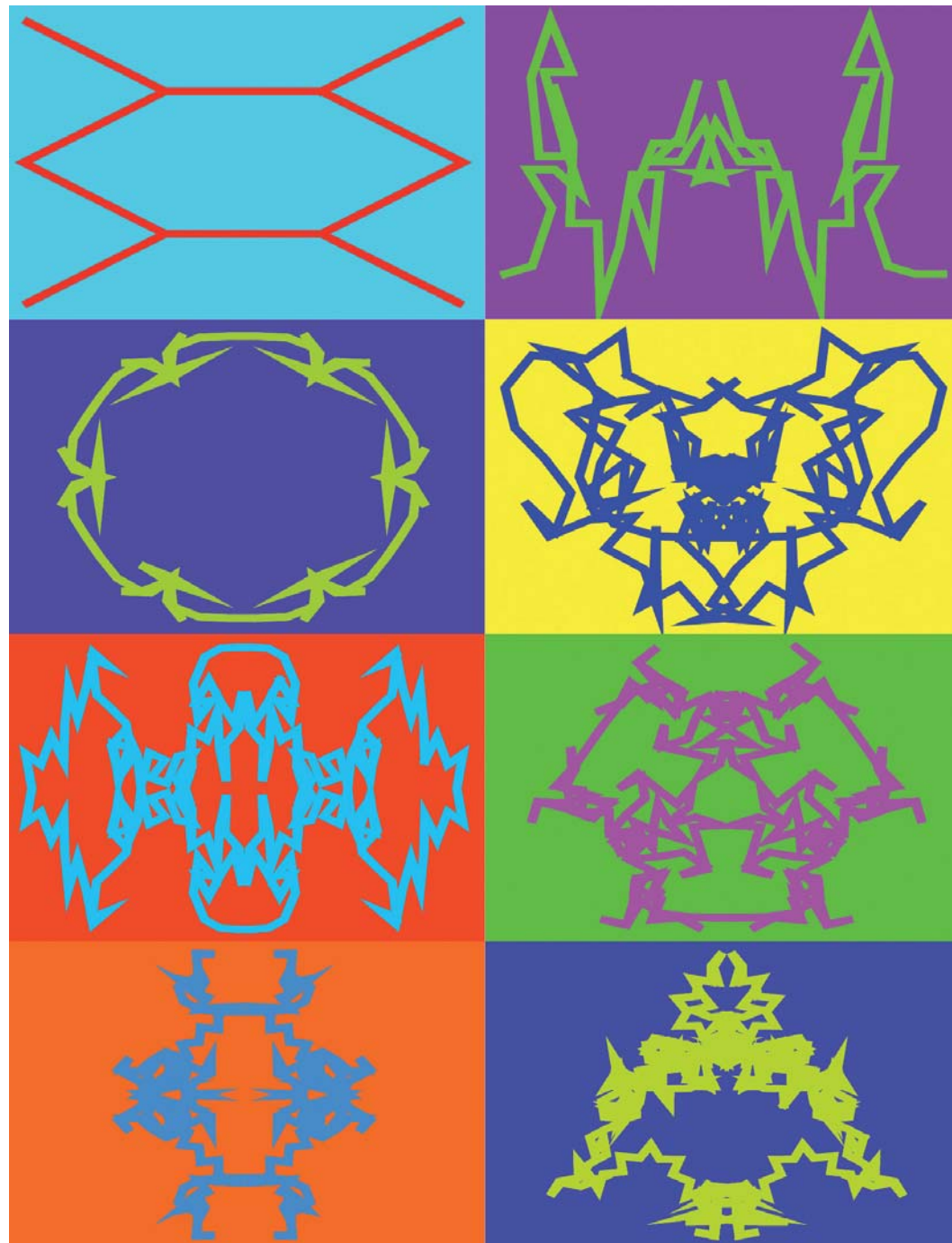
Complimenting the Lego structures are an array of films that dazzle you with their colours and ever changing blocks of primary colours. They take for their basis, randomly generated colours and operate through using basic shapes, and regular transformation to become a hypnotic visual knock-out. Like the eyes of the old snake Kaa that hypnotises Mogli in the Disney film of The Jungle Book, these films have a hypnotic effect, and play with the way that our brains process colour and movement. They make you want to keep looking at them, in order to try to process their patterns and movement.





Lawless' and Johnson-Perkins' work overlaps in many ways, but it is their different approach to achieving similar aims which is the most rewarding aspect of their collaboration. Johnson-Perkins' work has previously set about making colourful and hypnotic films using colours from the colour wheel and an artists eye, but the addition of the potential to utilise a mathematician's principles, random colours and programmed sets of coordinates gives rise to an infinite number of pieces of work. These works have the feel of being lighter and structural for being numerical sequences connected to simple aesthetic rules, and this method increases the capability for exploring and assessing colour and shape by iterating the creative process repeatedly using a machine.

Matthew Cowan  
September 2007



BIOGRAPHIES

JAMES JOHNSON-PERKINS is an international artist based in Newcastle Upon Tyne. Recent exhibitions include: Long Island Media Festival, IMAX cinema (New York, USA), International Experimental Film Festival, Florean Museum, Baia Mare (Romania) & First Play Berlin, Hau 2, (Berlin, Germany). Up and coming exhibitions include a solo show (PLAY) at Fermoy Gallery, King's Lynn Arts Centre (UK) and Do Billboards Dream of Electric Sheep? (Leicester, Derby, Nottingham, Manchester), with Conor Lawless. [www.johnson-perkins.co.uk](http://www.johnson-perkins.co.uk)

CONOR LAWLESS is a biomathematician who is currently working on the Systems Biology of Ageing at Newcastle University. His research interests are based around computational representations of dynamical systems. He has also developed computational tools for the construction and manipulation of videos and electronic images. <http://lwlss.net>

MATTHEW COWAN is an artist and curator based in Newcastle Upon Tyne. He is a director of Novellus Castellum an arts organisation, which organises residencies and events in Newcastle Upon Tyne. [www.novelluscastellum.co.uk](http://www.novelluscastellum.co.uk), [www.matthewcowan.net](http://www.matthewcowan.net)

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No Selection	$0 < \frac{M_m}{M_T} < k$	Selection $\frac{M_m}{M_T} \geq k$
$\frac{dM_m}{dt} = -kM_m$	$-M_m$	$-kM_T$
$\frac{dM_w}{dt} = -kM_w$	$-kM_T + M_m$	$\bigcirc$
$\frac{dM_T}{dt} = -kM_T$	$-kM_T$	$-kM_T$

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PARTIAL SELECTION No Selection	$0 < \frac{M_m}{M_T} < k$	PARTIAL SELECTION $\frac{M_m}{M_T} \geq k$
$\frac{dM_m}{dt} = -kM_m$	$-k(1-\phi)M_m - M_m\phi$	$-kM_m(1-\phi) - kM_T\phi$
$\frac{dM_w}{dt} = -kM_w$	$-k(1-\phi)M_w - k\phi M_T + \phi M_m$	$-k(1-\phi)M_w$
$\frac{dM_T}{dt} = -kM_T$	$-kM_T$	$-kM_T$

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No Selection	Partial Selection $0 \leq \frac{M_m}{M_T} < k$	Selection $\frac{M_m}{M_T} \geq k$
$\frac{dM_m}{dt} = -kM_m$	$(k(\phi-1) - \phi)M_m$ $= -kM_m$	$-k(M_m + \phi M_w)$
$\frac{dM_w}{dt} = -kM_w$	$-k(M_w + \phi M_m) + \phi M_m$	$-k(1-\phi)M_w$
$\frac{dM_T}{dt} = -kM_T$	$-kM_T$	$-kM_T$

*Pent Valley School*



*MATHEMATICS.....Prize*

*Awarded To*

*JAMES JOHNSON-PERKINS.....*

*Date .....NOVEMBER 1987....*