

Tom Betts:
postgraduate research
student

Game Sublime

Biography

Tom Betts is an artist and computer programmer whose work focuses on the deconstruction of digital forms and process of emergence in programmed structures. He has taught game design and cultural theory at the University and is now in the process of a practice based PhD investigating generativity and the sublime in digital games.

Tom has produced numerous software artworks over the last decade; including modified video games such as *QQQ* (2003), *FSKN* (2005), *CCTEX* (2005) and *AVSEQ* (2008-10). He has also been a professional recording artist and performer, published by EMI with his experimental band Weevil. Tom's interest in generative audio led him to establish the world's first automated streaming radio station *RAND()*%, where all scheduling and audio was produced in real time by automated computer programmes. More recently he has created various public art installations and community driven digital projects. *Untitled*

Application (2009) was an interactive commission for the BBC Big Screen in Leeds and *Flutter* (2009-10) was a schools' digital craft project involving over 2,000 children at the Southbank Centre, London and throughout Yorkshire. His work has been included in publications such as *Internet Art* (Thames & Hudson, 2004), *GameScenes* (Johan & Levi, 2006) and *Form and Code* (Princeton Architectural Press, 2010).

Tom has exhibited and performed at a wide range of international venues, including the Sonar Festival (Spain), ZKM (Germany), Museo Tamayo (Mexico), the New Museum (NYC), the ICA (UK), Sonic Acts Festival (Holland), MediaCity Biennale (South Korea), and the Australian Independent Games/ Art Festival Freeplay (Australia)

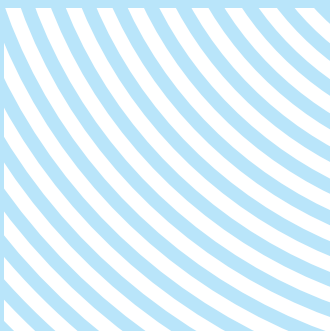
Current Research

Tom's current research examines the role of procedural and generative processes in videogames. He has a specific interest in where these patterns interact to produce immersive

states of flow and a digital reflection of the sublime. An art graduate from Goldsmiths College, London, Tom has always used game systems and software programming in the production of his artwork. His interest in the interactive and nonlinear possibilities of videogames has led him to both deconstruct commercial games and create his own experimental programs. After working in digital arts for over a decade (for organisations such as Tate, The V&A, Channel 4) Tom decided to pursue his research interests within the more rigorous academic context of a practice based PhD.

Much of recent games research has a tendency to focus on the narrative and socio-cultural aspects of the field. This is a natural result of the mainstream game industry pursuing the trajectory of cinematic mimicry and the growing interest in games as a cultural form within traditional media studies. However, this approach often overlooks the unique formal elements of game design and programming that are





specific to the medium. Tom's work explores the emergent features of pattern based play and outlines important synergies between programming paradigms and ludic forms. His practice results in generative systems that question the notions of authorship and linearity in games. Procedural structures and emergent forms are recurring themes in his work, where he sees both the production and negotiation of these structures as a promotion of a meditative or sublime state for player and designer.

Tom is investigating how mathematical and algorithmic functions form the root of emergent gameplay. These processes are employed in both commercial games and experimental projects, but with different intentions. Through interviews and analysis, Tom identifies the practical and philosophical applications of emergent gameplay in the developer community. Undoubtedly, interaction with emergent structural complexity requires pattern

processing and Gestalt navigation from both the designer and the player. In this context traditional roles of authorship are frequently questioned and the lines between the act of programming games and playing them is blurred.

A further field of Tom's creative practice is in developing audiovisual gameplay environments derived from generative and procedural programming. These 'surface' actualisations of code build a visual field that represents emergent complexity and encourages players to engage with the underlying models. He is interested in examining the relationship between procedural code and its audiovisual representation.

In 2010 Tom produced *AVSEQ*, an interactive installation that takes the form of an abstract audio-sequencing computer game. The work explores the use of generative procedures, structural emergence and entropy in order to present an interactive and evolving game experience. There are specific

theoretical concerns that *AVSEQ* puts forward through its game mechanics and generative processes. Firstly the construction of the audio tracks proceeds in an almost entirely random manner. The nature of this random distribution essentially replicates a simple noise algorithm writing data into the sequence. Yet the sensation that the music is intentionally structured is intriguing. Players feel a definite sense of ownership, they believe that they have 'written' the track themselves by a much more direct method than is actually present. This is a common result of both Gestalt perception and game systems as immersive environments. By actively participating in a procedural skill based challenge gamers feel more connected to the gamespace and more convinced of their agency within it.

Many game designers strive to code this experience into their products and recent programming paradigms clearly demonstrate the influence of such emergent structural processes. Indeed,

the semantic growth of 'code as a medium' has promoted key epistemological ideas such as object orientated, encapsulated and behavioural programming. These frameworks are now core elements of game design but also share striking ontological paradigms with aspects of process philosophy and systems theory. Philosophical texts and books — Kant's *Critique of Judgment* (1790), Deleuze & Guattari's *A Thousand Plateaus* (1980) and DeLanda's *Intensive Science and Virtual Philosophy* (2004) — show how notions of emergence, entropy and the sublime have evolved through successive stages of critical thought and science.

Tom's research continues to investigate these issues through art practice and critical reflection. Operating as both an artist and a programmer, roles that are inseparable in his interdisciplinary approach to practice, he aims to produce applicable theory and concrete software responses to these themes.