KEYNOTE PAPER

THE INTERFACE BEHIND THE FACE

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Most of us at this meeting are users – sometimes heavy users – of electronic and digital technology. We use it to present information to people in particular ways and forms in order to achieve a variety of purposes: to inform, communicate, engage, excite, challenge, influence, educate, entertain, and more. In what we do, we naturally tend to focus on technological concerns, seeking out faster hardware, brighter projectors, smarter interfaces, new combinations of media, and so on. In this talk I want to look at a rather neglected component of the whole process, something we take for granted simply because of our intimate familiarity with it: the human brain. I will describe how the new science of neuroplasticity is teaching us that the brain can no longer be regarded as a fixed, closed, passive receiver of information from the senses – a mere processor for the information that is controlling our body through a kind of one-way communication. We are now seeing the recognition of growing scientific evidence that the brain is in fact almost nakedly open to external influences, and is capable of rapid and radical change by remodelling itself through learning and interaction with the environment. And what should concern us most is the peculiar vulnerability of our brain to the influence of electronic media.

The digital revolution is changing the nature of our perceptual processes, and this in turn is changing our conscious experience of the physical world, inducing changes in cognition on a scale that is still unknown. As inhabitants of the modern city we are in constant interaction, both active and passive, with digital technology. Even at home, we are surrounded by the sight and sound of screens and digital interfaces: DVD player, computer, television, cell phone, cooker, clock. But the majority of scientists investigating cognition still refer to the ‘real world’ as a constant, an axiom, unchanged through time, ignoring the fact that the present-day real world, saturated by the latest technologies, differs fundamentally from that of even a decade ago.

These facts concern all of us in different ways, but from my own perspective I want to ask: how does all this affect the artist? This new understanding of cognitive processes is warning us that experiencing art, and especially electronic or technology-enabled art, may be far from being an innocently entertaining or aesthetically pleasing experience extending for a limited period of time. The disturbing evidence of neuroplasticity raises the possibility that experiencing particular forms of art may itself affect and mark our

cognition – perhaps with irreversible and unknown changes. But the news is not all bad; the dramatic shift in neuroscience also brings with it a fascinating opportunity to explore and analyse the effects of electronic media through scientifically informed art, which could give rise to an entirely new art form: neuroplastic art. It may be possible to structure art works according to this new scientific evidence, to fuse scientific knowledge with imagination to exploit the nature of electronic media to create platforms for experiences that have never existed before – and perhaps even to reshape our altered brains in benign and desirable ways.