Practicing digital design and thinking digital design are two different things. While digital technology has radically altered both our virtual and actual worlds, our ways of thinking (philosophically, ideologically and politically) have struggled to adapt so easily. Most designers use digital technology to still produce analogue concepts. Digital concepts that engage with the unique capabilities of pixels are still in the minority when it comes to design solutions (print graphics, product design or even new media).

Issues of immateriality, temporality, virtuality and non-corporeality, have all radically changed our notions of identity and being, sense and non-sense. Yet, the ideas behind digital art and design practice often remain obscure to consumers.

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In our so-called 'digital age', all art production including traditional analogue media (painting, sculpture, film etc) cannot escape being re-imaged or reconceived in the light of digital realities. Software programs and digital tablets, cameras, virtual reality simulation programs and a host of haptic technologies are all playing a more integrated role in art and design. Not only is our global economy dependant for its survival on digital technology, so are our symbolic and imaginary lives. While the majority of young people are now expert consumers and users of new technologies (web surfing, mobiles, computer games etc) by the time they enter secondary education, they are have little experience as creative producers of new media projects.

New Media Design Education
The experimental training grounds for the development of new ways to think and reflect upon these new technologies can be found in an increasing number of art schools, universities, galleries, conferences and mainstream media. Design and new media philosophy, theory and cultural studies courses are starting to find a voice in the canons of traditional faculties. Taiwan is one of the countries to recognise the importance of digital design and new media thinking to industry. An active policy of setting up courses and new degree programs is a testament to this awareness. Increasing numbers of postgraduate students with international doctorate degrees are now feeding their ideas back into the Taiwanese economy and society. The impact of these new ideas will be felt far beyond the university walls. A new digital philosophy and political ideology in Taiwan will also emerge to challenge tired old modernist concepts.

At a more non-commercial underground level, new media art can be sourced at rave parties, local community festivals and on-line forums, net happenings, chat rooms and discussion boards. The boundaries of the traditional university or college classroom are rapidly breaking down. Education has gone on-line and gone home to the bedroom. What teachers and students do individually and as a group in the classroom has also been challenged by on-line and computer based learning. The classroom and lecture hall have now become a cultural performance theatre spaces. Ironically, on-line technologies have forced teachers and students to actively interact and engage more with ideas rather than with knowledge as an object to be passed on as a series of facts. There is no is point dragging your body out of the rich virtual world of endless information and into a university lecture theatre if all you are receiving is what you were downloading yourself at home. Universities as physical places will evolve into conference and research centres where students come to interact with each other and professors face-to-face. The majority of traditional learning will be done on-line at a distance.

New Media Art
In the last few years the growth of interest in new media art in Taiwan (as elsewhere) has been well documented in the media and at many conferences and festivals in Taiwan and around the world. The many economic, social, cultural and technological reasons for this boom have resulted in a rapid set of changes to how artists, institutions (government, education, museums, galleries), corporate companies and bodies have adopted new media into their programs. Initially the role of digital technology was to translate or transfer information for storage, regeneration and redistribution. Today, new virtual worlds communities and identities are reshaping the actual world we live and breath in. The planet is now the home of heterotopias (real and virtual places that co-exist outside or inside social spaces) that constantly evolve, live and die in the same way conventional societies and cultures do.

On the commercial front (creative industries) the major players have been; on-line education courses for both distance education and local markets; gaming software development; web-based content and multimedia communications development. If we focus on the digitally mediated art scene, there has been a burst of festivals, government funded initiatives, and art gallery sponsored shows and centres established. Under various labels including net art, web art, electronic art, new media, cyber art, digital art and techno art, artists and designers are engaged in a wide range of activities using digital technologies that cut across previously discrete discipline boundaries based on analogue media practices (painting, sculpture, ceramics, printmaking etc). All disciplines have been radically rewritten by an increasing range of digital technologies from computer hard and software, to digital cameras, printers, and virtual galleries to mobile communications. All these technologies bring with them pre-determined ways of thinking about art and design. It is the active role of educator and student alike to challenge the logic of system, the code of conduct and the hype of the application.
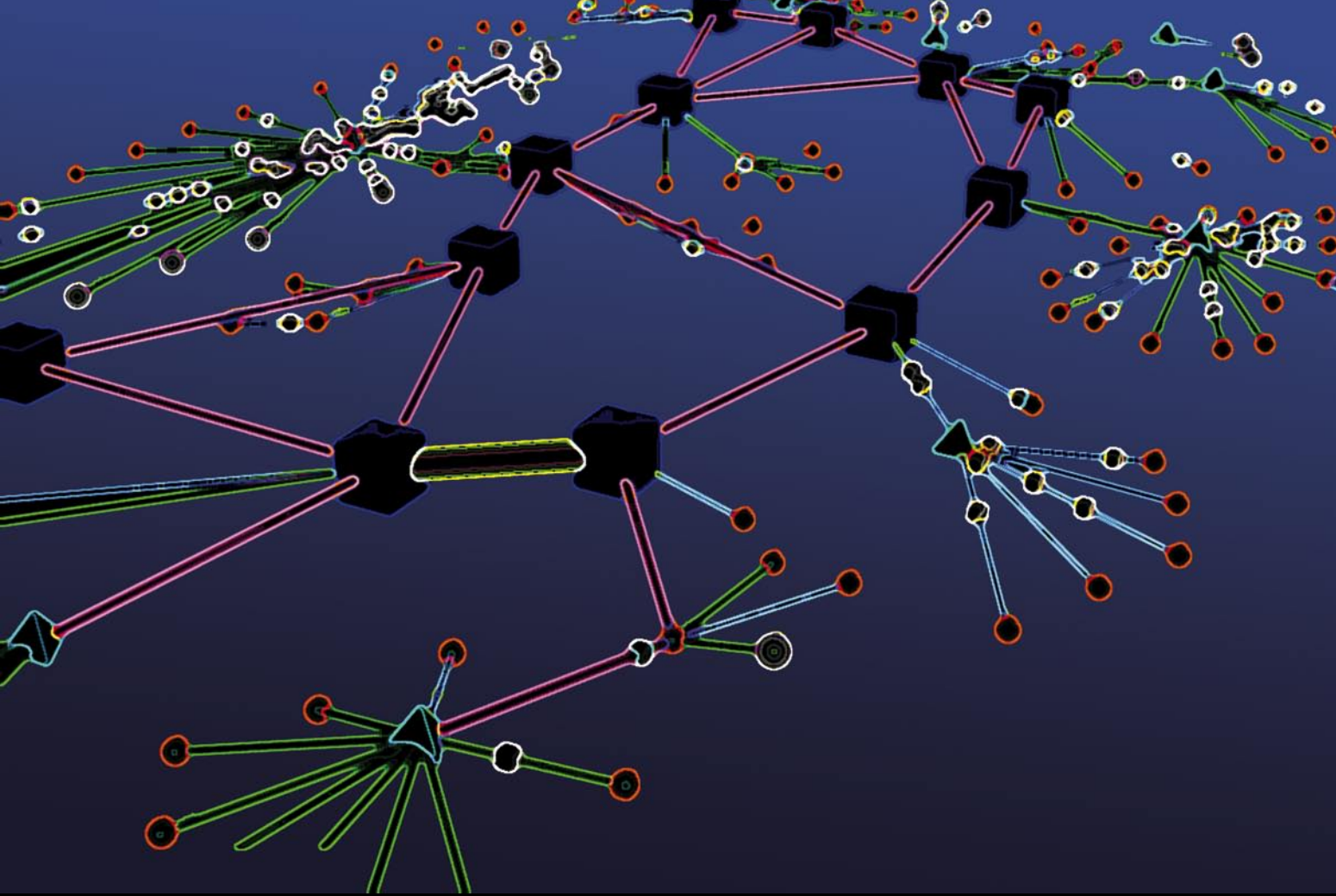
3D Hyper-map of a party conversation in a Taipei Resturant, digital fiction map No.104, 2005
台北餐館的派對談話3D超地圖　數位虛構地圖104號 2005

Total Design
Many of the most interesting new media artists and designers now work from home bedrooms, in schools and colleges. The boom in short animations and digital videos is a testament to this cheaper domestic technology market and niche (point-to-point) marketing philosophy. Microzines, free promo products, give away T-shirts, mobile phones and other "prizes" build up an integrated circuit of 'total advertising', 'total design' and 'total lifestyle' marketing. Reality TV programming was the first crude step into interactive television. Now the 'reality communications' model has spread across the television programming landscape and leaked into documentary cinema. Contemporary postmodern art has been also taken over by total advertising reality philosophy. The rhetoric and strategies of advertising is now sympathetically aligned with the rhetoric of art. The concepts of *total advertising* and *total design* involving the planning and construction of top-to-bottom systems of persuasion and seduction draw in art as a part of the total aesthetic package. Complex cultural practices, social rites and historical dramas are condensed and distilled (or reduced) into micro-narratives that can be easily downloaded and viewed on mobile audio-visual technologies.

The emphasis on one-line captions, image spectacles, advertorials, infotainment press releases and copywriting style manifestos, all serve to promote a curatorial hypermarket of constantly changing brand name artists and their 'products'. Packaging is all-important, 'the big idea' paramount and a carefully staged character media persona is essential – mad artist, tragic artist, idiot savant, or heroic artist are a few popular options. The studio media outlet has long replaced the days of the studio garret.

Most art products now have a lifespan of the duration of the exhibition, a few days or even minutes. Web galleries hang in the black vacuum of cyberspace waiting in silence to be accessed by surfers for a second or two. Designers are dealing with a virtually mobile population of readers and consumers who demand detailed yet information quickly and simply, in an entertaining billboard fashion.

Translation/ Simulation/ Generation
Digital thinking for an analogue pedagogical system can only go so far before it comes up against brick walls (virtual or actual) of resistance. We can employ the general production categories of *translation, simulation* and *generation*, to analyse how works engage or interact with digitality.

Translation is the most common use of digital image technology to for example scan photos onto web. The aim is to faithfully as possible transport the analogue into the digital environment. Will continue to be the large part of image production on the web while technology and bandwidth remains limited. Lack of creative digital thinking within education is also a major limiting factor.

Simulation is largely restricted to games, film and animation effects, for example the 3D rendering of water on the fur of monsters using customised filter effects. Will expand into media and web usage as technology and economics of bandwidth delivery allow. Challenge will be to expand beyond the market driven entertainment industries into the wider cultural environment.

Generation is the least common yet most complete or unique to the digital medium. Found in music VJ, web art employing real time generation of sound and image algorithmic programs. All generative media an only exist in a virtual world. The vast majority of generative art and multimedia work remains creatively and conceptually poor (eye and ear candy) yet should attract more artists as more highly sophisticated software applications become available.