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Adapting the mobile phone: The iPhone and its consumption

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In this paper, I look at the Apple iPhone as a fascinating instance of adaptation, especially as it relates to digital cultures. A theme in the rise of the mobile, or cell, phone has been how it underscores the active role that people play in the orchestration and use of culture. The gambit of the iPhone is that the mobile phone itself will be decisively remade, and through this that media culture will itself be reformed. To make sense of this rapturous reception, I examine the iPhone as a notable instance of consuming culture. The paper discusses the double sense in which the iPhone functions both as a signal adaptation of the mobile phone at the same time as it introduces new practices and politics of adaptation.

Adapting the mobile phone: The iPhone and its consumption

Although a mere three decades old, the cellular mobile phone is an important location of contemporary culture and its reproduction and variation. In this paper, I wish to consider cultural adaptation through a discussion of the mobile phone. My case study is the Apple iPhone. Introduced in mid-2007 to much acclaim, the iPhone is an excellent example of adaptation because it is explicitly conceived as an intervention into the styles and genre of contemporary culture – notably mobile phone cultures, Internet cultures, and the broader scenes of digital culture, and what it represents for cultural transformation in general. Moreover, the iPhone and the terms of its introduction have put strong emphasis on the active roles that people play in orchestrating and using mobile, digital cultures.

The cellular mobile phone was first and foremost an adaptation of the telephone. This process itself spanned the best part of the twentieth century, drawing together various complex revisions: the reworking of radio technologies and radio spectrum; the remediation of the telegraph; the reimagining of mobility; and the acoustical recrafting of voice telephony for the portable instrument. The 1980s is broadly the period in which the classic form of the mobile phone was stabilized. By this I mean that the decisive shift to a stand-alone portable telephone in this decade of the first-generation analogue mobile phone provided the material basis for a set of new affordances and design features that are now regarded as standard for a cell phone (Goggin 2006). In the 1990s, when the second-generation digital mobile system took over, the cell phone became smaller, more portable, more domestic and closer to the body (Fortunati 2006), and this was accompanied by the inclusion of new features, capabilities and communicative architectures, as well as cultural expectations and routines, into this pocket-sized technology. In the 1990s, the cell phone became part of everyday life, and loomed large in the conjuring of those involved in design and fashion, and entertainment and media, as much as the worlds of telecommunication.

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If the telephone was a rich repository of adaptation, the mobile phone greatly intensified and accelerated this. Further, with the advent of the cell phone, the importance of telephonic metamorphosis to cultural adaptation in general became vastly more significant. Although the mobile phone is an important site of contemporary culture – as explored in the special 'Mobile Phone Cultures' issue of *Continuum* 21, no. 2 (2007) – it has not yet been viewed systematically through the framework of adaptation central to this issue and developed elsewhere (e.g. Hutcheon 2006). Michael Keane and Albert Moran's work has richly theorized the processes of adaptation in television and film formats, genre, institutions and structures (Keane, Fung, and Moran 2007; Moran 1998; Moran and Keane 2007). For instance, in their examination of fashioning television program formats in Asia and the Pacific, they propose the present as an era of abundance, and ask:

> What then is the motor or source of this differentiated abundance? How does it register as a phenomenon and how does it come about? The significant dynamic of the present era in television seems to be one of adaptation, transfer and recycling of narrative and other kinds of content. The phenomenon is widespread even while the particular term or set of terms that cover its operation are quite imprecise and slippery to apply. Although we invoke a series of labels including adaptation, transfer, recycling, translation, remaking, spin-off, and re-versioning, we recognise that this kind of activity needs greater commonly agreed upon terms. (Keane and Moran 2005)

As a way to open up the questions of mobile phones and adaptation, it is useful to think about the extent to which mobile phone cultures are involved in broadly similar dynamics to television or other media forms – and what the major differences might be. Mobile content, including narratives, programs and content, is now becoming important to adaptation in this sphere, but this is only part – and so far a minor part – of what is at play here and in the larger dynamics of culture in which the mobile is set.

To start with, the mobile is an everyday device, object or thing (Turkle 2007). The materiality of the mobile phone is very important to how it is understood and how it bears, marks and is grasped by culture. Further, the mobile has been a much-copied and adapted object. There is no comprehensive history or account of these adaptations of which I am aware. In the absence of this, I would point to the new kinds of adaptations around the world, but especially those occurring in the Asia-Pacific. These include the fertile and resilient career of text messaging; the cumulative imaginings of micro-adaptations of users and user-generated content, such as those charted by Larissa Hjorth (2009); the quite different mobile media adaptations emerging in Korea and Japan; and the large-scale industrial cloning, copying and reinvention of mobiles by new social groupings, and national formations (such as those represented in China's stark emergence as a massive mobile-using and manufacturing country).

Two important terms used to discuss mobiles have been 'design' (regarding which there is a large and diverse literature) and 'customization' – and bringing these to bear on the cultural adaptation framework would be a fruitful process. To bring the mobile phone into discussions of adaptation also highlights the importance of technology. Notoriously difficult to define, the aspect of technology is crucial to grasp for understanding mobiles – as it is for grappling with the new character of globalization and culture. Here I am interested in technology and adaptation, which is raised – though not necessarily explicitly – in the literature on global technologies (Law, Fortunati, and Yang 2006).

In this article I can only aim to make a preliminary contribution to this larger project of thinking about mobiles and adaptation. Rather than focusing on the myriad adaptations of the 1970s, 1980s and 1990s, I wish to concentrate on a more recent and highly publicized effort at remaking the mobile: the project of the iPhone. For a number of reasons,

the iPhone is a very interesting case of mobile phone adaptation. First, the iPhone does not present itself as an adaptation: Apple professes to be utterly changing the mobile – at least in its promotional literature, but also in other important ways. Second, the kind of adaptation the iPhone represents is about adapting the mobile phone for the Internet. It is about adapting the mobile to finally put it at the centre of computing, the Internet and digital culture. For instance, the iPhone is very much a platform for, and creature of, its applications. Its 'Apps Store' allows a wide range of programs and applications for the iPhone to be readily purchased and downloaded, bringing the affordances of computing to the mobile phone in a form that previously has not been possible. Third, the iPhone is very much a haptic adaptation. The mobile phone very much emerged as a haptic technology, rather than primarily an aural, listening or speaking technology, especially with the popularity of text messaging – underscored by the emphasis on the mobile as a 'hand' (or 'handy') technology, and especially through the text messaging 'thumb' culture. Fourth, the iPhone promises to make the mobile even more customizable and adaptable – identity on the move, made to order. For instance, the iPhone menus can be configured to a much greater extent than previously in line with the user's wishes: thus each iPhone screen can look quite different.

In what follows, I want to examine the sense in which the iPhone works as a cultural adaptation. My argument is threefold. First, I suggest that the iPhone is indeed an important adaptation of the mobile phone – though not quite in the terms in which Apple presents it. The iPhone does draw from the grammar of mobile phone design, and combine and rework a number of well-established affordances, elements and technologies. And it also borrows from the well-established, distinctive traits of Apple 'i' technologies: the hardware of the iPod, and the software, and intellectual property and digital rights management regime of the iTunes application. Thus the iPhone pushes the mobile much more towards the world of computers and the Internet. Second, in its consumption, the iPhone sees the mobile phone take on even more and quite novel everyday uses and meanings. Third, because of its new affordances and design, and also the larger scene of its everyday invention and consumption, the iPhone sets in train a new logic of adaptation that Apple cannot license. With the iPhone, Apple sets out take the control of adaptation from the hands of mobile phone carriers and manufacturers, and to allow new flexibility, third-party applications, programming and data exchange. Apple tries to control, circumscribe and manage the way in which it puts new powers of adaptation in the user's hands: to allow the user to get under the bonnet, to borrow a motoring metaphor. What Apple does not reckon on, or at least cannot hold at bay, is the warp-speed way that unauthorized modification of the iPhone occurs – thanks to enthusiastic hackers and the immediate, sweeping dissemination of hacking tools via the Internet. Certainly, the bulk of users still may find such do-it-yourself adaptation of the iPhone too difficult, but a larger-than-usual group of users did avail themselves of the iPhone hacks. All of which probably just adds further to the aura of the iPhone.

The beginnings of the iPhone

The first time a technology came to be called the iPhone was actually in the mid-1990s, when it meant the 'Internet phone'. With the rapidly growing mass consumption of the Internet, developers were hard at work to devise a form of telephony that could work via the new network of networks. This form of Internet telephony was called the iPhone. This has now developed into a relatively easy-to-use household technology called Voice over Internet Protocol (VoIP), with its best-known proponent being Skype. In the 1999–2000

period, a different class of mobile phone devices was marketed, also bearing the name of the iPhone. Key to these was a claim that the mobile phone would now become a prime device for accessing the Internet.

For its part, Apple started work on its iPhone in 2005, with a prototype finally emerging in mid-2006 (Vogelstein 2008). Previously, Apple had already created one mobile phone, aimed at preserving its hold on the digital music market. This was the ROKR, released in September 2005. The ROKR was a joint venture between Motorola and Apple. Motorola had responsibility for the phone (in conjunction with the mobile carrier Cingular), while Apple focused on the music software (Vogelstein 2008). Unlike Motorola's sleek, popular RAZR phone, the first version of the ROKR looked a lot like a classic, rather clunky cell phone. It only held 100 songs, and did not allow music to be directly downloaded. However, the ROKR was the first mobile phone to feature the Apple iTunes application (see Figure 1).

The latest version, the ROKR E8, launched in April 2008, does much more resemble the RAZR (see Figure 2). Nonetheless, its reputation was dismal, the apogee of its reception being *Wired* magazine's cover, with its headline: 'You call *this* the phone of the future?' (Vogelstein 2008).

At the time the ROKR was invented, the talk was of the 'music phone'. However, a key problem with the collaboration between Apple and Motorola in devising the ROKR was over the computer giant's approach to intellectual property and digital rights management:

> A key part of the iTunes package, for example, is FairPlay, Apple's digital rights management software ... FairPlay would set limits on the new phone: It couldn't play music from any major online store but iTunes. It couldn't hold more than 100 songs. 'It's obvious why Apple is doing this,' says Patrick Parodi, head of the Mobile Entertainment Forum, an industry trade group. 'They don't want to cannibalize the iPod.' (Rose 2005)

As the ROKR went to market, the iPhone was in development – allowing Apple tighter control over music and other content. Clearly, Apple's strong suit lay in its strengths in computers, operating systems and integrated suites of applications. So, for instance, its engineers rewrote the Apple OSX operating system for the iPhone. Apple also shone in the area of design, with its iPhone building on the classic shape and look of its classic iPod device. However, Apple showed less proficiency with the other features of mobile phones.

Figure 1.   The ROKR.

Figure 2.   The ROKR E8.

The much-heralded iPhone ran initially on the 2.5-generation digital mobile phone network, with the third-generation (3G) iPhone following roughly a year later, in mid-2008.

'Biggest launch since the Apollo program': Making the iPhone fever

> It was the biggest launch since the Apollo program. How did Apple's smartphone – which slickly packages features already available in other handsets – become such a highly anticipated phenomenon? The answer lies not in Steve Jobs' (undisputed) marketing prowess but in the abject failure of other handset manufacturers to deliver a portable Internet device with mass appeal. So the iPhone has ascended, and its liftoff was a rousing success. (Geekipedia 2007)

Perhaps what most distinguished the iPhone from the many other adaptations of mobile phones was its rapturous reception and, hand in hand with this, Apple's phenomenally successful marketing campaign. Herein lies the paradox of adaptation that the iPhone represents. The iPhone is clearly an adaptation of the mobile phone. As *Wired* magazine's Geekipedia points out, the iPhone is an obvious descendant of the smart phone – the multimedia mobile phone that combines various computer programs with entertainment options. Yet the 'biggest launch since the Apollo' rebadges this evolution as a revolution. Clearly, design values, chic and usability – all features of the Apple world of iMac and iPods – are key to this. So too is the careful crafting of the iPhone's reception by its makers.

The arrival of the iPhone was much anticipated, and featured long queues of aficionados, who were prepared to wait out in all conditions for the privilege of being the first to hold and try the new device. The iPhone queues started with the first launch in the

Surrounded by cheering Apple Store employees, one of the first iPhone buyers leaves the
store on Fifth Avenue in New York,.
Photo: *Reuters*

Figure 3.   'Frenzy as iPhone go [sic] on sale'. Source: *Sydney Morning Herald*, 30 June 2007
(www.smh.com.au).

United States in late June 2007 (see Figure 3). Tech blogger Caroline McCarthy provides
typical coverage: 'Check out my grainy little video – that's the iPhone line in midtown
Manhattan. Can you believe that there's apparently barely anyone waiting at the city's
AT&T stores?' McCarthy actually plotted the length of the queue in midtown Manhattan
at 3.00 p.m. on 29 June 2007 on Google maps (McCarthy 2007).

   After its US debut, Apple staged the launch, complete with queues, in many
subsequent countries – each launch not only a local media event, but often attracting
international attention also.

   In July 2008, I happened to be in Wellington, New Zealand when one morning the
arrival of the iPhone, complete with now customary queues, was announced. Not only did
this signal the arrival of the iPhone in Aotearoa but it also marked the launch of the first
3G iPhone worldwide. The news of the launch in Wellington was quickly updated with the
revelation that the young student at the head of the queue, who was the first person to
obtain an iPhone, was actually paid to do so. It has now been acknowledged officially
elsewhere by at least one operator that the iPhone queues are a key marketing ploy, and
that extras are paid to participate:

> Poland's biggest telecoms operator, Telekomunikacja Polska, acknowledged last week that it
> had paid young, hip-looking film extras to stand in queues for the national launch of Apple's
> iPhone. 'It was a marketing move. We thought it was a pretty interesting strategy,'
> TP spokesman Wojciech Jabczynski said. 'The aim was to attract attention. The people in the
> queues told passers-by about the iPhone.' (*The Australian* 2008)

The marketing hype not withstanding, the iPhone was named the invention of the year by
Time magazine in 2007:

> The thing is hard to type on. It's too slow. It's too big. It doesn't have instant messaging.
> It's too expensive. (Or, no, wait, it's too cheap!) It doesn't support my work e-mail. It's locked
> to AT&T. Steve Jobs secretly hates puppies. And – all together now – we're sick of hearing
> about it! Yes, there's been a lot of hype written about the iPhone, and a lot of guff too. So much
> so that it seems weird to add more, after Danny Fanboy and Bobby McBlogger have had their

day. But when that day is over, Apple's iPhone is still the best thing invented this year. (Grossman 2007)

Grossman gives five reasons for his verdict: the iPhone is 'pretty', it is 'touchy-feely', 'it will make other phones better', 'it's not a phone, it's a platform', and it 'is but the ghost of iPhones yet to come' (Grossman 2007). The accompanying photo of the device is captioned: 'It's a genuine handheld computer, the first device that really deserves the name.'

iPhone apps: New forms of mobile consumption

Mobile phones, even the application-rich smartphone, have been difficult devices for many to manipulate, and to reprogram in the way that users of computers, and especially users of the Internet, expect to be able to do. There is an irony in this. As mentioned, mobiles have actually been an eminently customizable device in another way. Users have adorned them with their favourite keepsakes. They have changed the faces and colours of their cell phone. They regularly change the ringtone, screensaver or desktop. And they care intensely about the mobile as a signifier of fashion and identity.

However, thinking about and using the mobile phone as something that can be programmed and networked, according to the user's preferences, has been a difficult proposition. Moreover, there has been little of an open market in mobile phone applications at the consumer level. The typical scenario is that applications – notably games – can be downloaded via mobile Internet (WAP) sites, or via premium mobile content, and then can run on the device (memory permitting). There are also many Internet websites that offer applications for mobiles. Certainly there are some mobile users who do regularly download such applications (evidence of a burgeoning mobile content industry) – but the process is not especially user friendly.

Enter the iPhone 'Apps store'. Using the iTune interface and user experience, the Apps store does make it much easier to be aware of, choose, pay for and download applications for iPhone. Apple's pitch is: 'Applications unlike anything you've seen on a phone before':

> Applications designed for iPhone are nothing short of amazing. That's because they leverage the groundbreaking technology in iPhone – like the Multi-Touch interface, the accelerometer, GPS, real-time 3D graphics, and 3D positional audio. Just tap into the App Store and choose from thousands of applications ready to download now. (Apple Apps store, www.apple.com, 15 October 2008)

Both via the Internet and using the iPhone itself, the experience of finding applications is much enhanced. Not only is the iPhone a signal adaptation of the Internet and mobiles, it is highly adaptable by its users. The applications and programming options of the iPhone themselves feature very visibly in iPhone culture, as the Apple promotion suggests – as users try, swap and discuss applications. It has also meant that the iPhone is an important new platform for developers, a community which has often found the experience of developing applications for mobiles a frustrating experience.

Indeed, the iPhone has faced serious criticisms from developers. In the first place, Apple launched the iPhone without allowing access to third-party developers. This allowed it to announce the release of a software development kit with some fanfare. The basic terms upon which Apple engages with iPhone application developers are still quite controversial, and are seen by many as too restrictive and slanted in Apple's favour. There have been a number of celebrated examples in which Apple has cracked down on developers.

With Apple's easing of the restrictions on developers, the applications available have often centred on novel uses of a mobile phone. A number of these revolve around the iPhone's three-element accelerometer. The iPhone's accelerometer is a sensing device that

is able to gauge the orientation of the phone, and make appropriate changes in the screen. For instance, someone viewing photos on their iPhone can rotate the device 90 degrees, from portrait to landscape layout, and the display will detect the movement and change accordingly (Apple 2008). The iPhone is equipped with two other sensors: a proximity sensor, and an ambient light sensor.

Rich Ling opens his book *New Tech, New Ties* with a story of a plumber who knocks on his door, distractedly talking on the phone (Ling 2008). When Ling opens the door, the plumber, without so much as a by your leave, walks in, continues his conversation, and begins measuring up for the job. With the iPhone, the mobile phone is not only the great communication and business tool of the tradesperson, it is literally a tool they can use in their work. With the application 'Level', the iPhone becomes a spirit level (or carpenter's level), which can be used to see whether a surface is flat or plumb. The spirit level was apparently invented by Melchisedech Thevenot around 1661 (Wikipedia 2008), so the iPhone amounts to a nice reprise almost four and a half centuries on. There are now a myriad of uses of the iPhone's new adaptation of sensing technology, including applications that allow you to play games swinging the phone, such as iBowl ('Simply swing your iPhone like a bowling ball and see how many strikes you can get'). Here, the iPhone is clearly an adaptation of the gaming practices and moves familiar from Nintendo's Wii remote, the wireless controller for the popular video game console (Johnson 2008).

There is much more to say about the burgeoning culture of the iPhone centring upon its great potential for adaptability with downloading of apps, flexible configuration and new logic of sensing, motion and touch. The iPhone is a novel *combinatoire*, at the least, for melding mobile, computing and Internet cultures. But what are the limits and politics of adaptation that its architecture, code and design allow and constrain?

'It will make other phones better': iPhone's innovation

If we discount the most overblown claims for the iPhone – the 'Jesus' phone, the most awaited launch since Apollo 11, and so on – then the central claim concerning the iPhone is that it strikes a fatal blow to the locked-down mobile phone platforms. In the words of *Wired*'s Fred Vogelstein, the iPhone 'blew up the wireless industry'. Whether in these terms or others, this is the central claim about the magnitude and meaning of the iPhone's killer adaptation. While conceding various shortcomings of the iPhone, Vogelstein submits that:

> The iPhone cracked open the carrier-centric structure of the wireless industry and unlocked a host of benefits for consumers, developers, manufacturers – and potentially the carriers themselves. Consumers get an easy-to-use handheld computer. And, as with the advent of the PC, the iPhone has sparked a wave of development that will make it [the mobile phone] even more powerful … Manufacturers will have more control over what they produce; users – not the usual cabal of complacent juggernauts – will have more influence over what gets built. (Vogelstein 2008)

This will result in the scales being lifted from the eyes of Apple, for the common good:

> wireless carriers begin to show signs of abandoning their walled-garden approach to snaring consumers … Eventually this will result in a completely new wireless experience, in which applications work on any device and over any network … (Vogelstein 2008)

On this view, the benefits of the iPhone stand not only to accrue to Apple and to iPhone application developers but also to the mobiles industry itself (what in the United States is typically referred to as 'wireless'):

> It may appear that the carriers' nightmares have been realized, that the iPhone has given all the power to consumers, developers, and manufacturers, while turning wireless networks into

> dumb pipes. But by fostering more innovation, carriers' networks could get *more* valuable, not less. Consumers will spend more time on devices, and thus on networks, racking up bigger bills and generating more revenue for everyone. (Vogelstein 2008)

The iPhone, then, is an adaptation of the mobile phone highly suited to the master themes of its time: end-to-end digital innovation.

There is some truth to this account. Apple was able to negotiate unusually favourable terms with carriers, regarding the split of revenues. This was one reason why Apple also struck exclusive deals with carriers – such as its deal with AT&T when it first launched in the United States. While few details are in the public domain, it does appear that Apple did manage to gain a better deal than that typically struck with other mobile content providers (the bargaining power of the carriers being a great bugbear in the industry). However, it is important not to overstate this achievement. The political economy of mobile media is still very much structured and controlled by the cellular mobile carriers, which by virtue of their control of the networks, custody of the customer databases and long-established sunk capital and pervasive presence still command what is otherwise a maelstrom of media convergence.

It is important to view the emergence of the iPhone, and Apple as a significant player in the cultural and political economies of mobile media, from the consumer's perspective. Apple is a peculiar kind of cell phone manufacturer, enjoying compelling and desirable horizontal integration. Thus it may be able to extract better gains from the negotiation with mobile carriers. Even so, there is no reason to think that Apple will pass on these gains holus bolus to the consumer or end user. To the contrary, there is a lively discussion and considerable literature on the strangleholds that Apple places on consumers of its computers, software and digital content. These strictures might be different from the suffocating embrace of the mobile carriers, and the norms of use and standard contracts that obtain there – and it is heartening to see the mobile carriers' systems of control challenged by the iPhone. However, Apple has its own well-defined interests in not opening things up too much; indeed, the company consistently seeks to circumscribe use and circulation of digital materials, and to demarcate the arena of digital culture in new ways, that serves its own interests. It is this aspect of the iPhone's adaptation of mobiles that goes squarely to the raging battles in digital cultures that I will now consider in some depth.

The cultural politics of iPhone modification

The flipside of the iPhone fever, and its Jesus-phone status, has been the clamorous role that hackers, with their devilish intentions, have played in its reception. Here, unseen and undesired adaptations have eventuated, despite the company's best wishes and attempts to control unauthorized uses. Recall that, when first launched, the iPhone was very much a 'closed' device at a number of levels: locked to one network provider; its applications only provided by Apple, and not open to the wider developer community; and its content safeguarded by the digital rights management regime well established through iTunes. Yet no sooner had the iPhone launched than it was hacked, with modifications and instructions freely available on blogs and websites (for instance, see Apple Insider 2008 for documentation on the hacking of the New Zealand 3G iPhone immediately after its launch).

While there was talk, and some evidence, that Apple did take legal or corporate action to stop or at least deter users from unlocking or modifying the iPhone, it could be argued that these unauthorized adaptations, displaying such keen interest in laying it bare, played into the mythos of the device. While many devices and software are now routinely cracked and modified, there was a visibility to the hacking of the iPhone that made the usually more underground tools and downloads much easier to find. Many users in countries such

as Australia, in which the iPhone had not been launched, were able to buy the device, activate and connect it with a provider of their choice – so adding to the advance praise of the technology.

In early 2009, the iPhone is now a more open platform, with a set of controls but also better access for developers, and also having fermented a thriving user culture which itself has some ability to modify its software and hardware. However, the iPhone does still remain quite a 'closed' platform. Jonathan Zittrain's early critique remains the most systematic one, even if it is now a little outdated (Zittrain 2008). Zittrain argues that the iPhone and similar moves amount to 'tethered appliances'. Zittrain opens with an image of Steve Jobs' January 2007 Macworld launch of the iPhone. Like Jobs, Zittrain draws a comparison between the launch of the iPhone and that of the Apple II computer 30 years previously:

> Though these two inventions – iPhone and Apple II – were launched by the same man, the revolutions that they inaugurated are radically different. For the technology that each inaugurated is radically different. The Apple II was quintessentially generative technology. It was a platform. It invited people to tinker with it … The iPhone is the opposite. It is sterile. Rather than a platform that invites innovation, the iPhone comes pre-programmed. You are not allowed to add programs to the all-in-one device that Steve Jobs sells you. Its functionality is locked in, though Apple can change it through remote updates. Indeed, to those who managed to tinker with the code to enable the iPhone to support more or different applications, Apple threatened (and then delivered on the threat) to transform the iPhone into an iBrick … Whereas the world would innovate for the Apple II, only Apple would innovate for the iPhone. (Zittrain 2008, 2)

For Zittrain, the iPod is an example par excellence of the 'tethered appliance' that now threatens to change the shape of the Internet:

> People now have the opportunity to respond to these problems [of PC and Internet failures brought on by bad code] by moving away from the PC and toward more centrally controlled – 'tethered' – information appliances like mobile phones, video game consoles, TiVos, iPods, iPhones, and BlackBerries. (Zittrain 2008, 101)

According to Zittrain, 'tethered devices' fail to be generative platforms, and what's more, they are configured to be actively inimical to user experimentation and co-creation:

> These tethered appliances receive remote updates from the manufacturer, but they generally are not configured to allow anyone else to tinker with them … Indeed, recall that some recent devices, like the iPhone, are updated in ways that actively seek out and erase any user modifications. (Zittrain 2008, 106)

Some of Zittrain's criticisms of the iPhone have less force, given the Apple has now released a software developer kit – and that the device can be activated on a wide range of cell phone networks. Yet Zittrain's critique still carries force, given the dialectics of 'open' and 'closed' in the iPhone as device and platform.

The interesting thing about Zittrain's account is that, having invoked the iPhone as problematic, he does not follow through to analyse the politics of the mobile phone. Rather, his focus is on the Internet and computing devices as generative, with Wikipedia and classic Internet decentralized participatory forms, such as the Request For Comment (RFC), as examples of good practice. In Zittrain's thinking, the mobile phone is used as a contrast to such generative Internet possibilities. The mobile is the foil, the 'bad object', that shows the dystopian future of digital culture. In his discussion of Nicholas Negroponte's controversial 'one laptop per child' project – with its giveaway of one hundred million laptops (the so-called XOs) to each child in the world – Zittrain likes its spirit of generativity, while criticizing its lack of attention to education, and also its

tethered aspects. With these caveats, Zittrain much prefers the XO project rather than its cell phone alternative:

> The easier and more risk-averse path is to distribute mobile phones and other basic Net appliances to the developing world just as those devices are becoming more central in the developed one, bridging the digital divide in one sense – providing useful technology – while leaving out the generative elements most important to the digital space's success: the integration of people as participants in it rather than only consumers of it. (Zittrain 2008, 240)

What Zittrain overlooks here is that the mobile phone is already widely used in the developed world – in generative and innovative ways, despite its limitations. In fact, the story of the mobile's low-tech user adaptations in developing countries is now becoming an important part of the media cultural dynamics of the rest of the world (see, for instance, Donner 2009).

So Zittrain's position on the mobile, which is shared by other theorists (Benkler 2006), draws our attention to the control architectures inscribed in coveted devices such as the iPhone. However, rather than following through the intricate struggles over mobile media, such a position vests all too much hope in the participatory culture centring on the Internet – and so both over- and under-reads the politics of adaptation occurring with the iPhone. If the iPhone is a highly significant, if controversial, adaptation of the mobile which at the same time draws attention to, and intervenes in, the cultural politics of adaptation, it is not the only makeover in town. There is much, much more going on in the world of mobiles and mobile Internet.

Take, for instance, another much publicized adaptation of the mobile phone: Google's Android. In September 2008, T-Mobile launched its G1, the first Android phone. The gambit of the Android is its reliance on an open-source model. Like the iPhone, the Android seeks to inaugurate a new kind of mobile phone, with a vision, set of affordances, and assumptions that principally come from computing and Internet cultures. Rather than 'just being a phone', it also aspires to be an alternative platform (see Figure 4). In the case of Android, it is a project of the Open Handset Alliance, a consortium of several companies, Google, Intel and Qualcomm, along with Motorola, T-Mobile, Sprint Nextel, and China Mobile (Helft and Markoff 2007; http://code.google.com/android). Android is based on an open-source licence, and is designed explicitly to compete with the other mobile platforms developed by Microsoft, Apple, Nokia, Palm, Research in Motion, and Symbian operating systems for mobiles.

Google's meteoric rise has been widely dissected, especially for its dominance of the contemporary Internet search and its moves to strategically position itself as central to the future of culture – with its digitization project with libraries. Google now joins Apple as yet one more computer and Internet behemoth seeking to shape the future of mobile media. The politics of the deployment of open source by corporations such as Google, Nokia, and others will be interesting to observe – to see where they diverge over time from
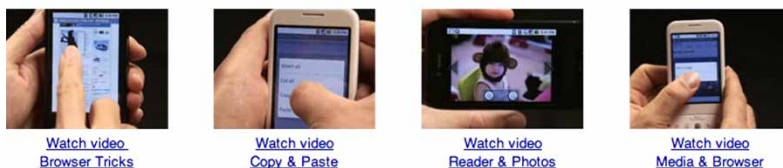

Figure 4. 'One thing I like about Android'. Source: http://code.google.com/android

the kinds of closed networks that corporations typically favour (for an instructive discussion, see Sawhney 2009, 113–14). Not that the large corporations can rest easily as yet: there are many other open-source mobile phone projects underway, such as the Neo FreeRunner Linux-based smart phone running the OpenMoko platform (Beschizza 2007). The Neo FreeRunner phone went on sale in mid-2008, but is still restricted to developers rather than general consumers (OpenMoko 2008).

Harmeet Sawhney has discussed such developments as mobile extensions of the Internet, looking at their potential for creating what he calls 'arenas of innovation'. According to Sawhney:

> For open-cell-phone enthusiasts, present-day cell phones are like main-frames. The users have little flexibility. They have to function pretty much within the tight parameters set by the system design. The open-cell-phone enthusiasts hope to do to this paradigm what the Jobs and Woz generation did to the mainframes. In effect, they want to make the cell phones as flexible as the personal computers. (Sawhney 2009, 113)

This would presumably be the vision of mobiles, after Zittrain. And it goes to the heart of the fantasy of the iPhone too. But as well as migration of innovation from the Internet (or computing) to the mobile, Sawhney suggests we should pay attention to the possibility of migration the other way (Sawhney 2009, 114–15).

Conclusion

In early 2009, the reception accorded the iPhone has led to various efforts to copy, clone and cope with its success (Fung 2004). Manufacturers from Samsung through LG ('Touch Phones') and Motorola ('Krave' touch-screen phone) to the newer competitor HTC ('Touch Diamond' and 'Touch Pro') took a haptic turn in 2008. And its Blackberry Bold and Blackberry Storm Research in Motion perhaps most explicitly went head-to-head (or digit-to-digit) with Apple (see Figures 5 and 6).

So how might we place these teeming, legion adaptations of the mobile phone? The iPhone is but one project among many that seek to modify the mobile to better take account of the things users expect from Internet and computing cultures, not to mention the genres, forms and practices of convergent media. The iPhone is an especially interesting case but it is such a strong adaptation – indeed, Apple has actively tried to present its device as marking a break with the mobile phone. As I have argued, the millenarian discourse on the iPhone, successful as it has been, obscures the prosaic series of adaptations it involves – as well as a critical evaluation of what is genuinely novel about it.

Figure 5.   'Blackberry Bold vs iPhone 3G'. Source: Boy Genius (2008).

Figure 6.   Blackberry Storm. Source: www.blackberry.com

What is specific about the iPhone is its refiguring of the history, design and habitus of mobile phone culture, and the way in which it moves the mobile much more into the realm of other online media. Yet just as important is the shaping of the iPhone as a device to navigate, arrange and orchestrate everyday life. Here the iPhone is being co-created by a range of other cultural intermediaries than Apple itself, including software developers and users. The third part of the iPhone's new logic of adaptation is the cultural politics of modification, where hackers and battles over code, commons and architecture are playing out.

More research is needed to chart the detailed adaptation of the iPhone across the various places where it has been launched. This was not possible with this paper, but it is an important part of understanding how the iPhone has been shaped in different places. It will be especially interesting to hear how the iPhone has fared in countries where mobile media have been much more advanced than, say, the United States – for instance, in Japan, where mobile Internet was so much a part of both cell phone and Internet experience, and where the mobile has proved so protean and culturally significant. Here, the iPhone could be placed in at least two histories of new media adaptation – that of the histories of the mobile and its consumption, and that of the Internet.

As well as the critical vocabulary of cultural adaptation we might borrow from other areas of media, such as television and film, we also need to think about the concepts that are associated with technology. To understand the triple-play of adaptation in the case of the iPhone, for instance, we need to engage with the new lexicon of copying, modification, authorized and unauthorized use, versioning, and so on that comes from computer, Internet and digital cultures. What emerges here is a set of new considerations for understanding both the processes of adaptation, and the dynamics of culture that subtends them.

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