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Forget the backpack, 'pocket journalism' is coming **All U.S. journalists, pro and amateur, need for better field reporting is a better cell phone. Fortunately, some are on the way.**

By Clyde Bentley

From Online Journalism Review, http://www.ojr.org/ojr/stories/061216_Bentley
Annenberg School of Journalism, University of Southern California 12/20/06

"Backpack" journalism? How old fashioned. My newsroom is in my pocket.

I may have literally picked up the future of journalism while in London this fall. For the past two months I have field-tested a cell phone so sophisticated it defies that name. It's the forerunner of a new generation of convergence device that could change the way we do our job.

I came to the UK to shepherd a class of Missouri School of Journalism students for four months while they learned how the rest of the world gets its news.

The trip gave me the opportunity to scratch one of my biggest technology itches. When I went to Korea a few years ago, I saw a society that was rapidly moving away from the laptop computer and toward hand-held super cell phones. But between the language barrier and my own awe, I never really figured out why the Koreans could watch video on their phones and I could only check my voice mail.

The answer to my question came from Mark Squires, head of communications for Nokia UK. Rather than give me a technical answer, he reminded me that it's "Knock-y-ah" and handed me an impressive chunk of aluminum, silicon and glass. It looked something like Spock's tricorder.

The Vulcan's machine only worked in three dimensions, however. This N93 is on paper a 3G (Third Generation) cellular telephone. But in fact it shoots high quality still and video photos, displays them for you on a 2.4-inch active matrix screen or connects to a standard television, downloads any Web page you want, produces copy on Microsoft Word, displays your presentations on PowerPoint, keeps your expense account on Excel, opens that e-Book on Adobe Reader, records the mayor's speech in digital audio, phones Mongolia free on Skype, polishes your shoes and teaches your kids Latin.



Well, maybe not the last two. But it does include a bar code reader if you are ever curious about those thick and thin lines.

I'm not a technologist, but I proudly speak basic Geek. Nevertheless, I was overwhelmed. Maybe hyperwhelmed.

The N93 is Nokia's latest attempt to pack the whole technology world into a pocket-sized package. It is the big brother of the N90, a lighter and simpler camera-cum-telephone that has made American inroads and which several of my students gleefully tested.

In fact, a super telephone is just a pocket or purse away on any London street. People here can buy 3G telephones at any of the Orange, Carphone Warehouse, O2 or T-mobile shops that occupy every other doorway on High Street. As you watch the world go by from the second deck of a bus, the people around you check their e-mail or text messages, share photos, find a map to a restaurant or listen to music.

Yes, listen to music. The techno world predicted that video messaging would be the killer app for 3G. But the iPod generation discovered the system allowed them to download music or even music videos to play through the phone.



The N93 has a dandy MP3 player as well as an MP4 player for your videos. But I'm old fashioned – I liked the built-in FM radio.

As much as I loved to play with the buttons on the slick little machine, my job was to see if it had a future in the journalism world.

It does. And it will only get better as Nokia, Samsung and the other

cellphone wizards improve the concept by making smaller and lighter units

Calling wonder boxes like the N93 a "cell phone" is a misnomer. They are advanced communications devices with telephony thrown in – more like a little laptop that can call home.

We are still installing a 3G network in the United States and it will be some time until it is ubiquitous. Japan and Korea are so far ahead they are looking at 4G and the European cell system upgraded to that level some time ago.

What are we missing out on with our clunky second generation cell phones? Incredible bandwidth, for one. The 5 Mhz frequency of 3G allows 384 kbps from mobile systems and a blazing 2Mbps from stationary systems. This means mobile video calls are a reality. But it also means that we in the information world can burst tons of data back to the office and even stream video from our phone.

But that's in the future for most of the U.S. And it's not why I'm excited by a 4x6-inch device.

Even without the capacity of 3G, the N93 allows journalists to do almost everything they would with a host of other appliances. The phone comes with two cameras. The "ordinary" low-rez camera comes on when you flip open the phone, letting you see your own smiling face until you launch a video call.

But more significant is the 3.5 MP camera with a 3x optical zoom that tops the N93. Both my students and I used the camera to shoot everything from crowds to portraits to landscapes in London. We sent side-by-side test shots back to the Mizzou photojournalism department and found they were as sharp as those from my Canon A520 (usually in my other pocket) and quite usable for print and online reproduction.

It's the video, however, that astounds. It records and plays at full VGA – 640 x 480 pixels – at 30 frames per second. One UK reviewer said the resolution combined with the optics competes with almost every amateur camcorder on the market. And we are not talking about brief clips here. Pop a miniSD chip into the expansion slot and you can shoot a 90-minute feature.

A journalist with only an N93 can then go to a coffee shop, edit the feature with the included Adobe Premiere software and send it to the office.

Oh, yea. Not having a 3G connection is less of a problem than it sounds. The N93 has built-in Wi-Fi.

Despite all that, I wasn't ready to go into the field without my trusty PowerBook until I discovered the Microsoft Office suite and the ability to hook to a portable keyboard via Bluetooth or USB 2.0.

I didn't have a keyboard available in London. But I once had one for my now-retired Palm Pilot. I loved the ability to pull the Palm from one pocket and the folded-but-full-sized keyboard from another and type for hours. The smaller screen is really not bad for text entry and becomes second-nature quickly. Remember, half the world communicates by text-messaging on even smaller screens and 10-key pads.



At this stage in the technology's development, using a device such as the Nokia N93 is not yet a perfect solution for the journalists.

There are many times when a bulky camera, a powerful computer or a sophisticated digital audio unit is needed. The N93 is chunky for a phone (about 6 ounces) but lighter than the combined pieces of equipment it replaces.

Squires said the larger size of business cell phones is less of a problem in Europe than in the U.S. Purchasing cell phones at face value instead of via a calling plan is so

common that many people have multiple units. He has a wafer-thin "evening phone" to which he transfers his SIM when the workday is done, similar to a woman who exchanges her shoulder bag for an elegant clutch for an evening at the theater.

But I'd put up with the size. I will whimper when I give my loaner N93 back to Nokia and will have the \$699 gadget on my wish list. I'm looking forward to the day I always work from a pocketful of technology.

My dream scenario is walking into a neighborhood in jeans and sweatshirt, an N93 in one pocket and a keyboard in the other. Sans my tell-tale computer bag and camera, I think I could be just one of the boys as I developed my contacts. And when the time came, I could record audio clips of background sounds, take a few photos of the street corner crowd then shoot a video clip of that great old codger. Back at the café, I could type my story, file it to the office and amble into the sunset.

Now that's new media journalism. And who knows how we will do journalism when Nokea gets to the N203? Beam me up.

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Update:

While the iPhone makes headlines here, cell phone manufacturers have stepped up sales of high-level phones in Asia and Europe. The Sony Ericsson K850, for instance, is more camera than phone. It has all the normal cellphone attributes, but also a "real" 5 megapixel digital camera with Xenon flash. While it has no WiFi capacity, it is a 3G phone with 384 kbps data transfer.

But even the K850 pales when compared to Samsung's SCH-B600. It not only acts like a camera, it looks like one. The SCH-B600 boast and incredible 10 megapixels (similar to the Nikon D40x), pop-out 3x zoom lens and quality flash. But you can only get it in Korea, where I was bowled over by the 5 megapixel predecessor at Samsung HQ a few years ago. The Korean phone and computer technology runs about five years ahead of the U.S. so expect something similar here sometime early in the next decade.



One cannot ignore the iPhone, however. Little of the technology it offers is new elsewhere in the world, but it is backed by the promotion and brand-loyalty to change American attitudes toward cell phones. Besides, it looks cool. The camera is rated at a fairly low 2 megapixels and while it has WiFi, it lacks 3G capability. A third-party word processor and a voice recorder-attachment are available. The iPhone shines as an iPod replacement.



Nokia is not sitting still with the N93. It's E90c has WiFi, a 3.2 megapixel camera, QuickOffice and a built-in QWERTY keyboard – plus a regular phone keypad on the front cover. And, of course, the FM radio, GPS, text-to-speech reader and similar wonders that are quickly becoming standard in smart phones.



The Nokia N800 is essentially a pocket tablet computer with built-in cell phone. No camera, but a very readable screen, WiFi, and a sleek design. It is primarily Web browsing.

Just this July, RIM introduced the WiFi enabled Blackberry 8820. It sports a 3.2 megapixel camera, GPS and a QWERTY keyboard. Third-party software gives the 8200 Word capability.



Driving these and other hardware innovations are major changes in the way digital signals are delivered in the United States. Cell phone evolution has gone through three generations, though most of the U.S. still operates on 2G or 2.5G. Some U.S. systems now have EDGE (Enhanced Data rates for GSM Evolution), which is usually classified G2.75. Asia and Europe have enjoyed faster 3G for some time and now the service is available in most large American cities. The newer system allows telephones and other devices to transfer data at between 130 and 144 kps. For comparison, a normal wireless router runs at 10 kps and hard-wired university system usually run at 100 kps.

As a result, the 3G phones are capable of receiving and transmitting streaming video. They can also do realtime GPS mapping, text data bursts and almost anything you could imagine a hot laptop doing. Most use digital camera-style removable memory chips.

The spoiler for the cell phone revolution is WiMax (Worldwide Interoperability for Microwave Access). WiMax is essentially WiFi Internet on steroids. Instead of room-sized local area networks, WiMax routers serve area 5 to 10 miles from the antenna. This makes citywide wireless “clouds” feasible. An important aspect is that it cuts the telephone companies out of the business and allows local governments to provide the service as a “public utility.” Portland, OR, and others are planning WiMax systems. Several hardware companies are designing hand-held telephones that use VOIP systems such as Skype for phone calls and computer companies are releasing sub-laptop machines.

How do you beat that? Sprint says it has its own WiMax/cell plans – 4G.

Read More:

A simple explanation of smart phones

<http://en.wikipedia.org/wiki/Smartphone>

A brief guide to 3G

http://www.3gnewsroom.com/html/about_3g/index.shtml

Current information on 3G

<http://www.3gtoday.com>

The WiMax Forum

<http://www.wimaxforum.org>

How EDGE works

<http://www.nokia.com/A4172007>

Mobile office technology

<http://mobileoffice.about.com>

Cell phone reviews

http://reviews.cnet.com/Cell_phones/2001-3504_7-0.html

Browser Comparison: iPhone vs. Nokia N95 and N800
(side-by-side video demo)

<http://www.viddler.com/explore/atmasphere/videos/53>

iPhone head-to-head comparison with 4 high-end phones

http://pbcentral.com/columns/hildreth_kravitz/2jul07.shtml