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PETER JUNGER, DIGITAL FREEDOM FIGHTER

Cindy Cohn and Lee Tien[†]

Professor Junger is best known on the internet as the plaintiff in *Junger v. Daley*, a successful challenge to U.S. export regulations that had hampered the development of strong encryption technology. Cryptography is the ancient science of secret codes, and modern encryption technology is how internet users keep snoops out of their internet communications, protect their credit card purchases online and otherwise secure their privacy in a digital environment.

Professor Junger was an unlikely plaintiff for the encryption cases. He was a tenured law professor, and while a geek in his own way, he was definitely not a pocket-protector wearing computer scientist or a long-haired hacker who lived on coffee and vending machine food. So it was a bit of a surprise to learn that he was not only interested in encryption as an abstract, academic issue, but wanted to be a plaintiff.

*Junger v. Daley*¹ case was a kindred spirit to a case we handled, *Bernstein v. DOJ*² in California. Both were aimed at an obscure portion of the U.S. Export Administration Regulations regulating the export of cryptographic products that prevented the unlicensed publication of computer programs on the internet.

In 2008, the outcome of the cases—computer programs declared protected speech and the encryption regulations declared unconstitutional—may seem obvious. In 1994, as we were developing the cases in parallel, it was not. To win, we had to convince courts to follow us through several technical and factual corridors in a place

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¹ 209 F.3d 481 (6th Cir. 2000), available at http://www.eff.org/legal/cases/Junger_v_DoS/960807_junger_case.announce.

² 176 F. 3d 1132 (9th Cir. 1999), available at http://www.eff.org/Privacy/Crypto_export/Bernstein_case/

that most judges had never imagined, much less seen. Remember, this was just before the internet had really changed from the province of computer scientists to a tool for ordinary people. There were so few cases that you could read through all of them in a day.

To win the *Junger* and *Bernstein* cases we first had to explain to federal judges what computer programs are. Second, we had to show how computer science is developed through publication of computer programs to a broad community of computer scientists. Third, we had to present this new thing called the internet and convince the court that it was important, even critical, to this scientific process. Fourth, we had to explain how the U.S. export licensing process hindered this process in the case of cryptographic science. Finally, we had to tie all of these threads together with the legal argument that the export rules violated the First Amendment rights of the computer scientists who wanted to publish computer software.

So while Peter was not an obvious plaintiff, he turned out to be an important one. This is because he understood the need to accurately translate each of these steps into language and concepts that non-technical people (including judges) could understand. In his writings he did this beautifully, slowly and methodically, unpacking each of the logical steps with examples from the real world. Yet he never slid into the lazy analogy.

Here's a small example from a posting to a mailing list we were on together in 1998. It's a long post, in response to a lower court decision in the *Junger* case that went the wrong way. Peter starts with the observation that computer code is often described as merely "names and numbers," rather than full speech. He painstakingly steps through what names and numbers are, how they are used in computer code, then leads the reader to see that numbers cannot possibly be devices, rather than speech:

Numbers are not devices. Numbers can be encodings of other numbers, of names, of stock market prices, of a melody, or of a recipe for baking bread, and even of instructions to a bread baking machine, but numbers are not what is named nor can they be a bread baking machine, or a telephone circuit. As someone once wisely said, a map is not the territory.

A few paragraphs later, Peter takes us from what numbers are to his point about the First Amendment:

In fact, it is seldom useful to view a string of binary digits directly, and that is so even when we do consider the string of

digits as representing a number like 73. Nor would it be very convenient if

every time we wanted to store a representation of the letter “I” in a computer file, we had to type the binary string 01001001, which represents the number 73 in pure binary notation and represents the letter “I” in the ASCII code in which in which this message is being stored, at least temporarily, on my computer.

Instead we type the roman characters and arabic numbers that make up some text—Starr's indecent report to the Congress, let us say, or the text of Back's three lines of Perl—on the keyboard of our computer using some editing or word-processing program, and that program causes the computer to store the ASCII representation of the text somewhere in the computer, without us ever once having to think that what is being stored is actually just a string of binary digits.

And from this point of view, what we have stored on the computer is certainly not anything like a telephone circuit, but rather a text whose publication, unless it is obscene or consists of fighting words, is protected by the First Amendment. And such a text is what I was suggesting might more persuasively be referred to as a collection of Names and Numbers.

Professor Junger's writing here is clear and clean. No law degree or computer science experience is needed. He uses metaphor to illuminate but not to obscure. Ultimately, he brings us from the computer processes to the First Amendment, making his conclusion seem the only and obvious answer. While many have praised Peter's technical abilities and legal acumen, just as strong should be his legacy as a translator.

The *Junger v. Daley* decision remains the highest level precedent for the idea that computer programs are protected speech under the First Amendment. It's a fitting legacy for a man who was one of the first to help bring together the law and technology in a way that increased the stature of both.

