BOOKS & ARTS

How to end the copyright wars

A high-profile copyright activist is fighting for traditional publishers to stop criminalizing their own readers, explains **Jonathan Zittrain**.

Remix: Making Art and Commerce Thrive in the Hybrid Economy

by Lawrence Lessig

Penguin: 2008. 352 pp. £25.95

By its own account, the Recording Industry Association of America (RIAA) has threatened thousands of people — many of them teenagers — with lawsuits for sharing copies of copyrighted music without permission. Most individuals pay several thousand dollars to settle out of court. In the only such case to go to trial in the United States, the jury awarded the RIAA \$222,000 in a verdict against a woman from Duluth, Minnesota, who shared 24 songs that had a retail value of \$23.76. Massachusetts youth Joel Tenenbaum has also refused to settle, and his trial will soon begin — more than \$1 million is at stake for allegations that he shared seven songs.

In *Remix*, Lawrence Lessig says 'enough' to this situation, arguing for a hybrid approach that differentiates private and commercial use. His book is an important and urgent work of radical moderation. It seeks to get both sides to stand down and respect one another, using arguments couched in terms of each party's values. Lessig wants to persuade traditional publishers — the purveyors of 'read-only' culture — that they should not fear their own fans. Publishers stand to make more money by embracing those who make new works from old standards than they do by criminalizing them. More subtly, Lessig argues that a strict divide between the world of sharing and the world of commerce is counterproductive. He wants to refocus attention away from the stalemated copyright wars and towards a more vibrant 'read-write culture' that remixes rather than replaces what came before. The future lies with hybrid enterprises that wisely blend the mercenary 'me' and the charitable 'thee'.

Lessig points out that the act of writing is near-universal. We teach our children how to write at an early age, and the tools to do so have long been accessible. With so much writing going on, there is bound to be appropriation of others' work, but its universal character has meant that no one minds, as long as it is attributed. The

Media moguls such as Mitch Bainwol, Jack Valenti and LL Cool J (left to right) fight today's copying culture — seen as flattery in maestro John P. Sousa's time (inset).

accessibility of new tools of digital literacy — and with them the ability to remix audiovisual works — is a much more recent phenomenon. Here, Lessig says, our instincts are too often wrongly grounded in the elaborate rules of copyright and licensing practices that date from an era when only big publishers could effectively edit such works. Lessig claims that the new is actually the old: before the rise of mass media, people naturally reworked audiovisual works as they sang the songs or performed the plays of the day. Even the most orthodox copyright proponents did not object. Some, such as composer John P. Sousa, thought this remixing crucial, lest the new "infernal machines" of mass media led to a world only of "the mechanical device and the professional executants". The loss of amateur 'yeoman creators', says Lessig, cheapens and flattens our culture, and worse, alienates us from our kids.

Lessig's ingenious framing makes the late-twentieth-century dominance of read-only culture the outlier, a rut caused by historical accident. It was a particular combination of technological development and some

unintended language — the word 'copies' — by the drafters of the US Copyright Act of 1909 that vastly expanded the scope of regulation. Free markets and democracy are the respective private- and public-sector innovations that ensure the past does not unduly dominate the future. Lessig fears that if read-write culture is marginalized by the law, this will detrimentally reinforce the status quo; the tenet of 'what is now, ought to be' is one of Lessig's main enemies, as in nearly all of his works. He is desperate for us to reflect on what counts as normal, and what counts as depraved, in a zone too often defined and dominated by soulless lawyers.

The sharing economy that has thrived alongside the Internet greatly intrigues Lessig. Although he concedes that no one has yet fully understood its magic, he is concerned that too much purism can kill it. Here, one can find a quiet remonstrance that content and code are different creatures, and thus some of the types of licence that sharing-oriented people might choose for free software might not be suited to content that is shared. Lessig is the founder of Creative Commons, a non-profit organization that provides creators with flexible copyright licences. In *Remix*, he outlines the case for licences that make one's work free for non-commercial use but reserve any right

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to commercial exploitation to the author — something that is traditionally anathema to the free-software movement.

Lessig approves of sharing activities that fall beneath a corporate umbrella, as long as they are in touch with their volunteer communities, and he sketches what can make them work. In one quietly controversial paragraph, he advocates that the current allocation of copyright infringement liability in these situations should be reversed. For example, YouTube ought to answer more for the copyright infringement of its users because it profits from such transgressions, whereas the infringing users should be protected because their activities amount to non-commercial sharing.

Successful hybrid enterprises abound. Yahoo! Answers is a web-based service to which people post questions and others answer them for payment in the form of non-monetary points. Interestingly, the similar service Google Answers sought to pay contributors outright, and it folded. One wonders what would have happened in the late 1990s if Microsoft's Encarta encyclopaedia had started paying for corrections and improvements from the world at large — would users of the nascent Wikipedia have felt they were doing for free what otherwise ought to be charged? Other hybrid phenomena — such as the classified-advertising network Craigslist, wiki-hosting service Wikia and even Google itself — will soon find themselves competing not only with pure community enterprises such as Wikipedia, but also with a new set of mercenary but distributed services. These include InnoCentive, which awards bounties to those who can solve particular problems, usually in exchange for transferring all rights to the solutions to those paying for them; Amazon's Mechanical Turk, a marketplace for people to do mind-numbing work that still only a human can do; and LiveOps, a 'virtual call centre' that creates communities of independent contractors, each in their own homes, who might take pizza orders one moment and staff a hotline for hurricane survivors the next.

Ultimately, Lessig seeks to shed his copyright-fighter's reputation, acquired in part through his challenge — for which I was a co-counsel — to the Sonny Bono Copyright Term Extension Act in the United States. The case was lost in 2003 at the US Supreme Court by a majority of 7–2. Lessig's goal is not to overthrow the current system so much as to temper its short-sighted excesses and to give a little something to everyone. *Remix* is dedicated both to L. Ray Patterson, a copyright historian who would no doubt have agreed with Lessig's prescriptions for copyright reform, and to Jack Valenti, the late president of the Motion Picture Association

of America. Lessig and Valenti debated several times, and agreed on nothing except the observation that our children's values are out of touch with read-only culture and the law that tilts so far in its favour. Lessig hopes to appeal to the Sousa within Valenti's successor and partners, yet as the founder of modern cyberlaw, he has a more ambitious agenda: dealing with what he sees as a more general corruption of the democratic political system originally intended to save us from our economic, legal and cultural

ruts. Perhaps Lessig's smaller battle is being won: in late December it was reported that the RIAA was abandoning new lawsuits against individual file sharers. But Joel Tenenbaum's trial continues. ■

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Fusion history beyond the fiascos

Sun in a Bottle: The Strange History of Fusion and the Science of Wishful Thinking

by Charles Seife

Viking: 2008. 304 pp. \$25.95

It is 50 years since the first international symposium on fusion energy research took place in Geneva, Switzerland, as part of the second United Nations 'Atoms for Peace' conference. There, the United Kingdom, the Soviet Union and the United States announced the declassification of controlled fusion research, raising the hope of clean and limitless energy for mankind.

In his new history of fusion research, journalist Charles Seife argues that such grand hopes push researchers to make unjustified claims of major advances. But in pursuing the controversies generated by a few isolated individuals, *Sun in a Bottle* neglects the more important story of the wider fusion community.

At the first Atoms for Peace conference in 1955, its chairman Homi Bhabha said: "I venture to predict that a method will be found for liberating fusion energy in a controlled manner within the next two decades." But the proceedings of the second conference in 1958 remind us that the scientific leaders of the main delegations were much less optimistic. Edward Teller from the United States said that the state of controlled fusion was "similar to the stage at which flying was about 100 years ago", and that the technical difficulties of fusion "are likely to make the released energy so costly that an economic exploitation of controlled thermonuclear reactions may not turn out to be possible before the end of the twentieth century". Similarly, reviewing work in the Soviet Union, Lev Artsimovich stressed that "world-wide collaboration is needed for progress".

Soon after, a network of collaborations under

the auspices of the International Atomic Energy Agency, the International Energy Agency and Euratom (the European atomic-energy community) was established in the domain of magnetic fusion. Results were openly shared and, two decades later, a major European facility, the Joint European Torus (JET), was constructed at Culham, UK. Scientific progress since then has been impressive — the foundations of a new 'plasma science' have been established. We now have a fundamental understanding of the complex collective processes prevailing in the hot, electrically charged gases known as plasmas, and have made significant technological advances in magnets, materials and high-power electrical systems. Consequently, fusion machines have improved greatly in their performance, both in fusion power and plasma duration. The US Tokamak Fusion Test Reactor (TFTR) and its European competitor JET, both of which use deuterium and tritium fuels, demonstrated power exceeding 10 megawatts, but only for short periods set by the limits of the auxiliary systems, notably the magnets. Other, smaller tokamaks and stellarator devices use superconducting magnets to confine the plasma and can be operated stably for much longer periods — 5 hours in the case of the Japanese tokamak TRIAM

1-M. Plasma science also provides industrial spin-offs. Plasmas are now common in low-consumption light bulbs, television screens and, through plasma processing, in nearly all electronic equipment.

Although JET and the TFTR have produced large amounts of power, these were less than the power consumed to heat the plasmas initially. A larger experiment, ITER — meaning 'the way' in Latin — was therefore designed with the aim of having a fusion power output that is ten times greater than the input power. ITER was originally designed by scientists

"Fusion scientists have not lived quiet lives."