

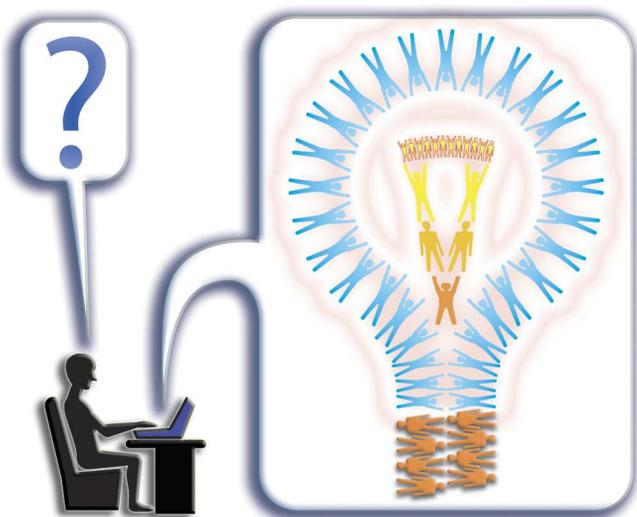
The bright and dark sides of social media

The Wisdom and Madness of Crowds

The Internet was invented to connect massive computers so they could share data. But from the beginning, even more important is the way the Net links people and enables them to share ideas and goals.

The first “killer app” was **email** – but the earliest electronic messaging systems appeared in the 1960s, long before the Internet. Yet the invention of email was crucial in spurring the Net’s evolution, for the development of the Internet itself is a group effort. With the Web, human interactions became more intense and will only get more so, as connections become less artificial and anonymous and begin to approach realtime face-to-face collaboration.

New models of sharing are emerging. Since 2005, people have been excited about **crowdsourcing** – using voluntary online communities to provide services or generate content and ideas. From this has sprung everything from **Wikipedia** to **Khan Academy** to **Kickstarter** to **open-source software** and **thousands** of other projects. In the process, the true power of people working together for good or evil has been shown. For there is also a dark side to human cooperation, which if unchecked, could destroy the fragile agreements binding it all together.



The power of cooperation

Relying on average groups of people to accomplish goals is nothing new. **Democracy** and **trial by jury** basically crowdsource government and justice – although it’s interesting to note that neither have yet emerged online in a fully-empowered form.

Crowdsourcing depends on mobilizing groups of people and therefore could not develop in any real sense before **mass media**. But even while newspapers were still in their infancy, the first such effort was launched in 1714 with the **Longitude Prize**.

The British Admiralty offered rewards of up to £20,000 (about \$5 million today) for a clock rugged enough to be used aboard ships to help them navigate safely. John Harrison, a carpenter’s son, finally developed one, showing that solutions can come from anywhere, even far outside the field.

In 1858, to cover all the words ever used in English, the **Oxford English Dictionary** began assigning books to volunteer readers who would copy passages illustrating word usage on paper slips for submission. The book-mining worked: the OED’s last printed edition in 1989 held nearly 300,000 words in 20 volumes. It’s now entirely **online** and still growing.

At a county fair in 1906, a statistician observed that the median answer of 800 people guessing the weight of a dressed ox carcass was within 1% of the actual value. From this simple result, the principle of the “**wisdom of the crowd**” was developed.

Originally coined by Aristotle, the term now means that the average answer to a question estimating quantities, spacial relations, or general world knowledge is often more accurate than random individual ones. The reason is that all individuals’ particular quirks or biases cancel or average each other out.

There are limits, of course. Crowds work best when the question posed has a correct, definite answer. They can also be swayed by social influences, some very subtle, because the underlying assumption is that all members of a crowd act **independently**.

Potential results can be awesome, however, and so it’s often used for potentially tedious tasks that anyone can do. For instance, an appeal in newspapers by

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a 19th century astronomer for observations of falling stars showed that meteor showers fell across entire continents in yearly cycles. More recently, NASA has applied it to their Earth photo archives to identify locations. And it can even be done by machines without human help. **SETI@home** harnesses the computing power of idle Internet-connected PCs to process radio signals in the search for intelligent life in space.

Crowds form the basis of many other “**citizen science**” projects, to count birds or butterflies, in genealogy and genetics, even for tracking ocean currents by reporting where **rubber ducks** ended up after being washed overboard in a Pacific storm in 1992.

It doesn't even have to be intentional. Google once made a game out of **labeling images**, and other games are now used for geotagging locations. Their **reCAPTCHA** tool uses the text-recognition abilities of people who want to post comments to prove themselves human by deciphering phrases from old books.

Volunteers for crowdsourced projects do it largely for altruism, fun, attention, or to learn. But some do it for money, too. **Amazon's Mechanical Turk** assigns simple tasks that only humans can do, like judging photos or writing product descriptions, for pay, but reputation is important, too, determining what sort of projects will be offered to individual workers.

However, for such labor there is no minimum wage, set hours, or any benefits. Workers are contractors with no claim on the work, and in fact, **intellectual property** ownership, along with tax law, still present many largely unresolved and persistent questions.

But many companies have turned to crowdsourcing to innovate new designs or deal with large, unruly databases. **Freelancer.com** offers global competitive bidding for the services of experts for hire. While such crowdsourcing may provide an inexpensive way of developing new products, **problems** like communicating goals, selecting the best results, scheduling, giving adequate rewards, and avoiding legal difficulties or bad publicity may prove daunting.

The same problems, plus liability, payback, and other issues, affect **crowdfunding**, which uses promises of financial support to push projects from idea to reality. This too, predates the Internet; public donations financed the erection of the **Statue of Liberty**, for instance. Places like **Kickstarter** and **Indiegogo** have fulfilled innovative dreams for new **board games** and **Star Trek sequels**. Some sites focus on **altruistic** projects but many causes, noble or not, have failed.

Crowdsourcing's most widely-hailed success story is also a prime example of the many difficulties attending such enterprises. **Wikipedia**, “the free encyclope-

dia that anyone can edit,” now with nearly 5 million articles in English, has given many frustrated intellectuals an outlet where they can show off their specialized knowledge. But it has also been twisted and abused many times in a variety of different ways.

Where anyone can edit, **uneven quality** is an ongoing problem and so is **bias**. Politicians have been known to slant their own or their opponents' pages. More troubling and damaging are **editing wars**, where partisans of a cause continually rewrite articles to match their beliefs. The **latest scam** involves rogue Wikipedia editors blackmailing celebrities or small firms for cash to get blocked entries accepted.

Dangers of gaming groupthink

Misusing open platforms for unintended ends has now become commonplace. Controlling the discussion is a tried and true method of manipulating public opinion. So reviewers are **paid to skew ratings** on social media, and agencies in Russia, China, and even here may even use automated software to **spread disinformation** or ridicule selected targets.

Plus, the anonymity many assume on the Net allows any so inclined to indulge in the worst **trolling** behavior. The combined effects make any public sharing dubious, and it's already taking a toll on discourse. The BBC, hardly the most raucous forum, is but the most recent popular site to **shut its comment section** down completely due to verbal abuse.

Such **cyberbullying** by groups has even led to suicides. **Flash mobs** have turned from dancing to looting or vandalism. And worse is likely still to come.

In 1841, a book called **Extraordinary Delusions and the Madness of Crowds** set forth examples through history of irrational popular ideas and mass fads – all of which have equivalents online today. **Rumors** now spread instantly by **Twitter** and social media, supported by tailored Google searches, can fan violent **outrage** at the slightest perceived misdeed – often misplaced, and usually expressed in the vilest terms.

People must learn that if you don't play nice, no one will want to play with you. But an even more urgent lesson today is “don't yell ‘fire’ in a crowded theater.”



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