TOOLS ‹‹‹‹‹‹
››››››of the TRADE

CanoScan 9000F

Along with the other new leaves to be turned over this New Year, why not retrieve your photographic archive and finally convert those slides, negatives, and prints into a digital format that you can save, e-mail, or share online? A simple way to tackle this overwhelming task is with the CanoScan 9000F color image scanner. Unlike smaller, dedicated film scanners, this is a full-size, high-speed scanner that produces 1,200-dpi copies of 35 mm negatives in approximately 18 seconds and 300-dpi copies of A4 color documents in about seven seconds. The maximum film scanning color resolution is 9,600 × 9,600 dpi, but that can be boosted to 19,200 × 19,200 dpi with software-enhanced scans. There are film guides for 35 mm mounted and 35 mm film/120 format film. There's an 8.5" × 11.7" maximum size for paper documents. When scanning book pages, automatic shadow correction removes the dark shadow from the book gutter on the edge. There are seven EZ buttons that automate the scan. You can copy, scan, and create e-mail attachments or PDF files with the push of a button. There's no warm-up time, and the Fare Level 3 feature offers dust and scratch removal and fade, grain, and backlight correction. The My Image Garden software is included for organizing and printing photos, and it has facial recognition, filters, automatic layout, and more. Computer interface is via Hi-Speed USB 2.0, and compatible operating systems include Windows 7, 8, Vista, XP, 2000, and Mac OS X v. 10.6.8 to 10.7. The scanner measures 18.9" × 10.7" × 4.4".
www.usa.canon.com

Seagate Slim Portable Drive

The Seagate Slim is a large-capacity, portable USB storage drive that works with both USB 3.0 and 2.0. It's less than half-an-inch thick and measures 3" × 4.5". At 5.3 oz., it's comfortably pocketable. Despite its small profile, the 2.5" hard drive will store 500GB. For comparison, a DVD can hold about 4.7GB of data, so the Seagate Slim is like a spindle of more than 100 DVDs. The included Seagate Dashboard software has three functions: Protect, Share, and Save. The Protect icon enables local backup. You can select your own specifications for a custom real-time backup or let the software set the default for what is to be saved. When you make further changes to your data, the backup function you've chosen will save those changes. The Share icon will upload your work to social networks, including Facebook, Flickr, and YouTube. The Save icon will download photos already on your Facebook or Flickr accounts to your Seagate drive. There are versions of the drive preformatted for either Windows or Mac, but both come with software drivers so they can work on either platform. Another advantage of the Slim is its price—you can get one for only $60.
www.seagate.com

olloclip Macro 3-in-1

If the claim in the Apple ads is true—that more photos are now taken on your phone than any other device—then it's time to think about augmenting the camera you always have at hand. The lens on the latest iPhones, which sits below a protective sapphire crystal cover, is moderately fast (f/2.2) and works very well with the built-in eight-megapixel digital camera. There are camera apps that offer a modified zoom feature, and Dermandar's free Panorama app will produce amazing 360-degree true panoramic photos. But the features that are still missing include extreme close-up and macro. Much smaller than the snaps you take of your checks to deposit at the bank, these are the photos that expose the surface of the world we don't pay much attention to. A company called olloclip already sells a combination fish-

eye/macro/wide-angle lens solution for iPhone 4 and 4s, and now they released a new macro system that clips onto the iPhone 5/5s and iPod Touch 5. The olloclip Macro 3-in-1 has three different macro lenses (21x, 14x, and 7x magnification), each engineered with a total of six elements for edge-to-edge clarity, greater depth of field, nicely diffused light on the image, less pincushion distortion, and a higher degree of aesthetic blur in the out-of-focus areas. The depth-of-field with the 7x lens is ideal for macro videos. You can use the 3-in-1 for medical research, design (circuit-boards, for example), documenting detail, or whatever becomes curious upon closer examination. The entire lens set weighs less than an ounce. www.olloclip.com

J.K. Lasser Tax Series

It's only January, but it won't be long before you start looking for that manila envelope stuffed with tax-deductible receipts and the paperwork on your estimated payments

made over the year. You can already see tax season dawning with the publication of the 2014 editions of the J.K. Lasser's tax series. It's impossible to profile these 500- to 800-page guides in this kind of space, so here are the general recommendations. This year J.K. Lasser's classic *Your Income Tax* is celebrating 75 years as the No. 1 tax guide. As in the past, the 2014 edition is comprehensive (816 pages), readable, replete with examples, and logically arranged. Two smaller guides that are worth a look are *Small Business Taxes 2014* and *1001 Deductions and Tax Breaks 2014*. Both are edited by Barbara Weltman, a tax attorney, guest columnist for www.WSJ.com, and contributor to www.SBA.gov. All three books are also available as e-books. www.jklasser.com

TECH FORUM

Computer Science and Philosophy

By Michael Castelluccio, Editor
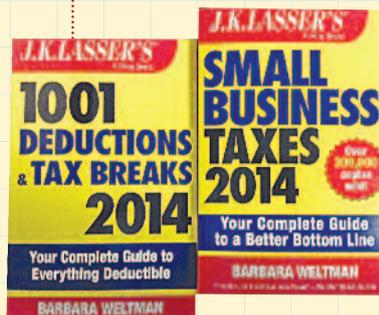
The University of Oxford began as a teaching institution in 1096, the same year as the commencement of the First Crusade. Last year, as the Academic Ranking of World Universities was finalized, Oxford was listed 10th best in the world and second best in Europe. It isn't entirely surprising then that the faculty at the venerable institution recently announced a new academic degree that weds the oldest formal science with one of the most modern.

The first students studying for Oxford's newly minted computer science and philosophy degree began in 2012 at the Hertford College of the university. The school designated the first matriculates in the program as a "cohort"—appropriate for an institution that, until the 1960s, had demanded a proficiency in Latin from all applicants.

The computer science and philosophy degree isn't a major/minor designation with one discipline providing a basis for advanced study in the other. The study of Descartes's dualism and modern database design are co-equals in the program abbreviated as CompPhil.

The Oxford online catalog offers two degrees in the program: "Computer Science and Philosophy can be studied for either three years, leading to a BA, or four years, leading to a Masters [sic] degree…The degree brings together relevant courses from both subjects, concentrating on those close to the interface."

The interfaces identified by the course designers are at those points where philosophy and computer science gravitate together. There are the more obvious areas like artificial intelligence (AI), logic, robotics, ethics, virtual reality, epistemology, and metaphysics. "But there are also many others," Oxford's website says, "since the two disciplines share a broad focus on *continued on next page*

PHOTOGRAPH: CHEVRON TANGO

the representation of information and rational inference, embracing common interests in algorithms, cognition, intelligence, language, models, proof, and verification. Computer Scientists need to be able to reflect critically and philosophically about these, as they push forward into novel domains." Not only are the expanded horizons of AI considered relevant, but also are the new ethical considerations around privacy and intellectual property.

The balance of the two disciplines changes through the years in the program. There's an emphasis on computer science and reasoning in the first year. First-year students concentrate on computer science (50%), logic (25%), and philosophy (25%). The computer courses for freshmen include Functional Programming, Imperative Programming, Algorithms, Discrete Mathematics, and Probability. The philosophy first-year courses include General Philosophy, Elements of Deductive Logic, and a "bridging course on Alan Turing's work on Computability and Intelligence." Actually, a non-matriculating passer-by can get an in-class experience of the program on iTunes and YouTube. It happens that the professor overseeing the program, Peter Millican, who was a lecturer in computer science and philosophy at the University of Leeds for 20 years, has made the first general philosophy lectures available for free at iTunes U. Just download the app, and you can sit in on the lectures, view the slides, and download transcripts in PDF format. The general philosophy course series is an abbreviated historical overview of philosophy and the major personalities from Aristotle to John Locke. You can preview or subscribe at https://itunes.apple.com/us/itunes-u/general-philosophy/id381701319. Or check the 32 videos on YouTube (search for "General Philosophy Oxford" on www.YouTube.com).

A degree in philosophy hasn't always been the most wide-open career pathway to take. In the past, the opportunities for philosophy grads could be contained on a short list on a single page in the vocation guidebooks. This isn't Oxford's position, however. On the online catalog page, the career expectations are described as wide-open: "It would be hard to find a better degree programme from the point of view of employability." And the University backs up this claim with the opinion of the External Advisory Panel of the Department of Computer Science, a group made up of employers. The panel says, "We believe that the degree is likely to produce high-value graduates who combine technical and analytical skills with rhetorical and literary skills. These are just the kind of people that industry, and we believe society generally, wants." The graduate with a CompPhil degree repre-

sents a new Renaissance man or woman. The panel then goes on to list a large number of positions these individuals could fill—far more than the "you could teach or do research" offerings of the past.

Not as wide-open is the number of slots for candidates at the university. The catalog advises that only four places are filled per year for the degree. Kind of exclusive.

THE TWO DISCIPLINES

If you have doubts about the combining of these two academic fields, Professor Millican, along with three others, has created a fascinating website (www.PhiloComp.net) that deals with a number of major issues surrounding human consciousness and knowing compared to machine knowing, learning, and possible consciousness. Just an irrelevant note: The PhiloComp website and some of its linked sources (the online *Stanford Encyclopedia of Philosophy*) are pretty ugly as websites. Apparently, aesthetics isn't one of the branches of philosophy attracting much attention among the syllabus creators.

Nevertheless, the PhiloComp website has dozens of interesting topics presented in manageable presentations. For instance, under the AI dropdown menu, there's the question, "Can Computers Think?" The discussion you're taken to compares two classical arguments on the subject—Alan Turing's test of machine intelligence from 1950 and John Searle's Chinese Room Thought Argument presented in a 1980 article in *Behavioral and Brain Sciences*. After reading through the two arguments, you're offered a free copy of the educational chatterbot Elizabeth—an amusing example of a natural language processing program that will discuss almost anything with you for hours on end.

In the short section on "Philosophical Issues in Robot Design" (under the Home tab), philosopher Maggie Boden considers a number of problems with artificial life. For example, she suggests, "Any robot that reasons about what it can and cannot do will have to employ some relevant concepts, including perhaps a concept of self (especially if it is to interact and communicate with other robots." But then, what's the best way to design a durable and universal language for robots? Would that involve the listening robot to be aware of the cognitive state of the speaker or just the language? Humans do both. Will (or should) robots be able to learn from experience, and should a robot be "designed to act within ethical limits [that] require some ethical decision procedure, specific enough to yield practical results"? It's an interesting syllabus. **SF**