

'Turn It In': technological challenges to academic ethics

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ABSTRACT *In this paper we explore the gritty terrain of academic dis/honesty as it is currently being reformulated through new technological affordances. We examine in depth the purchasing of technologically enabled plagiarism detection 'services' by higher education institutions in an effort to better understand underlying assumptions about epistemology, learning and cognition in a digitally (re)mediated 'knowledge economy.' In particular we argue that questions of intellectual property are today largely driven by new economies of knowledge privileging strategically self-interested individualism, and aimed at private accumulation of knowledge 'capital' whose exchange value drives a corresponding call for the policing of those boundaries. Such conceptions and motivations, we argue, promote a misperception that imitation and appropriation are no longer educationally 'of value,' and divert our attention away from far more urgent investigations into the ways in which new technological tools are changing what we know and how we know.*

It was about this time I met with an odd volume of the 'Spectator'... . I thought the writing excellent, and wished, if possible, to imitate it. With this view I took some of the papers, and making short hints of the sentiment in each sentence laid them by a few days, and then, without looking at the book, tried to complete the papers again, by expressing each hinted sentiment at length, and as fully as it had been expressed before, in any suitable words that should come to hand... . By comparing my work afterwards with the original, I discovered many faults and amended them; but I sometimes had the pleasure of fancying that, in certain particulars of small import, I had been lucky enough to improve the method or the language, and this encouraged

me to think I might possibly in time come to be a tolerable English writer, of which I was extremely ambitious. (Franklin, 1771, p. 6)

Benjamin Franklin documents, in the above quote, how he learned to write—by copying from the text of others, imitating their style, form and ideas. In the climate of today's educational institutions, from the lowest grades to post-secondary academic research and writing, Franklin's 'process' might certainly instigate charges of plagiarism.

Teaching and learning in a 'knowledge-based economy,' in a system which values knowledge as an economic currency, have had to acquiesce to demands for a greatly heightened policing of 'intellectual property' boundaries. Ready to meet that demand for regulation by institutions of higher education across North America is an online tool, Turnitin™, which proclaims itself 'the world's leading plagiarism prevention system' (<http://www.turnitin.com>). Turnitin serves as an interesting 'object lesson'¹ in the fallacy of intellectual autonomy, and helps make apparent some more troubling epistemological and ethical implications of technologies for education reconceived within a 'knowledge economy.'

Mediating between Turnitin and the exhaustion of the concept of autonomous knowledge production is the pervasiveness of new technologies and the formative roles that they play in contemporary intellectual inquiry. In countless ways—from search engines to spell checkers to the *Microsoft Thesaurus* to e-mail lists to newsgroups—our new tools create ways to manipulate, appropriate, rewrite and simply 'link' to other texts. This process, moreover, necessitates relinquishing any illusion there might once have been of creating our 'own' texts. Transgressing the boundaries of intellectual practice as individual production, these new texts and textual practices fundamentally challenge far more than citational practices.

Both the epistemology and the ethics of teaching and learning are being destabilized by new technologies; profoundly altered in that process are concepts and practices of intellectual production (see, for example, Noble, 1998). Standard definitions of plagiarism as the 'presentation of another's work as one's own' become, not only *not* transparent, but in some cases impossible to determine. This has been the case far more often than is acknowledged, and becomes especially problematic under conditions where an idea acquires real economic value (Blumensty, 2002). The sheer number and variety of current intellectual property debates (too extensive to take up here) may surely be symptomatic of the difficulty of determining individual intellectual production under material conditions where collaboration and distribution of competence are paramount.

Pong, the first commercially viable video game, was designed and developed by Nolan Bushnell and eventually sold by Atari, beginning in 1973. However, the game Bushnell designed looked remarkably similar to another video game designed by a larger company (Magnavox), and as a result, Bushnell was forced to pay a licensing fee (after Magnavox

launched a lawsuit) for *Pong*, something he claimed to have designed himself (Wolf, 2001). The main issue, and the reason for the success of the lawsuit, was that Bushnell could not *prove* that he had not played Magnavox's version of the game ('tennis') before building *Pong*. Whether Bushnell copied the design of the other game or created his own version of the same game, originality in that marketplace was, in the end, settled by an exchange of money—and as a matter of fact Atari went on to build many highly derivative games, based on the *Pong* model (Wolf, 2001).

This redefinition of originality is not just about new technologies, of course. On publication of his novel *Last Orders*, Graham Swift was forced to respond to charges of plagiarism as its plot structure was deemed to be remarkably close to William Faulkner's *As I Lay Dying*. Even in the realm of paradigmatically authentic, individual production—writing a novel or creating a new technological product—these issues are far from black and white, and are certainly not made clear by any standard set of 'rules of thumb' about plagiarism.

It is this murky, contentious arena that this paper approaches, in an effort to show how, while new technologies have altered what we know and how we know, extremely influential *educational* technologies appear persistently to cling to concepts and practices these tools themselves have already superseded. Guided by postmodernist Jean-François Lyotard and his work on the changing nature of knowledge under conditions of 'computerization,' we examine Turnitin as a technological artifact which is supported by Lyotard's expectation of 'a thorough exteriorization of knowledge with respect to the knower' (Lyotard, 1984, p. 4). Lyotard explains further that in a post-industrial, computerized society, 'knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorized in a new production: in both cases, the goal is exchange' (1984, p. 4).

Indeed the nature of knowledge itself has shifted from being seen to be an end in itself (of 'use value') to being something that can be 'exchanged' (Lyotard, 1984). Such a view impacts significantly on education, not merely or particularly Lyotard's dramatic death knell for the professoriate (1984, p. 53), but more centrally and substantively, the very purpose of education, which has abandoned its traditional goal of self-formation. Lyotard writes, for example, 'The old principle that the acquisition of knowledge is indissociable from the training (*Bildung*) of minds, or even of individuals is becoming obsolete' (1984, p. 4). Here again education's use value in the formation of a self, the *kind* of person one becomes and makes of oneself, is supplanted by the production of self as commodity with maximum exchange value, to be achieved through the acquisition of marketable on-demand skills, information and know-how. This is less self-formation than 'performativity'² and legitimation through production and consumption. As the activity structures of educational work thus

change from self-formation to commodity production, so too must notions of originality and plagiarism.

Turnitin

Under changing conditions of knowledge, knowledge production, knowers and the value of knowledge (Lankshear & Knobel, 2003), universities and their roles and functions have shifted from sites of learning. What is now transmitted is of value principally as an end in itself to sites of legitimation where what is of value is a degree with high vocational 'exchange value' (de Alba *et al.*, 2000). This epistemic transformation has resulted in new challenges to the traditional problem of plagiarism; what was once a difference in kind (learning as 'fair use'), has come to be seen as a difference in degree (a color-coded, quantitative 'Originality Report' [<http://www.turnitin.com/static/tour/tourmaster.html>]). This more urgent issue of plagiarism has been met with the development of an efficient, computerized solution in the form of database-driven software. Turnitin claims to be currently 'deterring plagiarism for nearly five million students and educators worldwide'—and there is no reason to think that number will not increase³. Recently, over 400 universities in North America have 'purchased for use' access to the plagiarism-deterring features of the Turnitin software (*Bulletin*, November 2003). Though not software or programming 'experts,' we do not find it difficult to guess at how this program works. First of all, it is little more than a sophisticated key-word search—but instead of inputting key words it searches for 'multiple strings' of words, and when it 'matches' those 'strings,' it 'uncovered' instances of plagiarism—much in the same way professors and teachers used to *read* their student's work, notice a 'familiar turn of phrase' and recognize the source of that phrase as *other than* their student's. Their account of how this works states, 'When a paper is submitted to Turnitin.com, it is fingerprinted using proprietary digital algorithms, and the fingerprint is then compared to the other fingerprints in our database' (http://www.turnitin.com/static/tech_faq.html).

Forensic terminology and criminal implications aside, one of the 'problems' with the software, of course, is that it cannot possibly account for everything that was ever written (or in that way everything that was ever thought) and so, like the old-fashioned professor, relies on what is in its available 'database.' Here again, Lyotard's vision of the death of the professor is evocative. He writes, 'To the extent that learning is translatable into computer language and the traditional teacher is replaceable by memory banks didactics can be entrusted to machines linking traditional memory banks and computer data banks to intelligent terminals placed at the students' disposal' (1984, p. 50). According to Lyotard (1984), 'data-banks' (once the mind of an individual) 'transcend the capacity of each of their users. They are "nature" for postmodern man' (p. 51).

That the system stores information in its database/s, leads to yet another under-interrogated aspect of this product: its reliance on access and 'storing' *other people's work* in order to 'catch' students at cheating. The web site boasts 'a massive database of digital material by continually cataloguing and indexing the entire Internet using automated web robots. Our robots retrieve millions of documents from the Internet every day' (<http://www.turnitin.com/static/tech.html>). Strangely enough though, when Turnitin uses the work of others to turn a profit, the fact that they have made use of the work of others 'for free' is not evident or questioned, except for a section on the size and authority of Turnitin's legal representatives, and those advisors' arguments about why it does not violate students' intellectual copyright⁴. So access to and use of 'intellectual property' is permitted for corporate profit, but not for students' deployment in an 'information economy.'

How is it that this 'service software' continues to draw the attention (and thereby funds) of administrators, and by implication, teachers and professors? One reason for its growing popularity might be that universities are looking for a 'quick fix.' Tired of carefully reading badly written essays strung together by thinly veiled copying and pasting, many are seeking a more direct, less time-consuming way of indicating these kinds of procedural mistakes to students. For that purpose, professional judgment and discretion are less required⁵ than is institutional legitimation, which can be readily be accomplished on the mass scale needed to batch process the large and growing classes of undergraduates who can be expected to take an ever-increasing proportion of their education online. Turnitin's quick fix very much conforms to Lyotard's (1984) description of the requirements of post-industrial knowledge production: maximum output for minimum input. It bears considering, as well, that the cultural, and therefore the educational, significance, functions and uses of the essay itself have changed. We are today very far indeed from inhabiting an essayist culture, so it is no surprise that for most of those students from whom the production of a formal essay is demanded, the point and purpose of that genre is something they have never experienced and fail largely or entirely to comprehend. In the current culture of consumption, within which the university has readily positioned itself as a 'broker,' its professors/researchers as 'service providers' and its students as 'clients', an essay today has, in Lyotard's words, 'exchange value'—no longer a practical or useful tool for the development and dissemination of one's ideas; the essay as a scholastic ritual functions as itself a commodity, traded primarily for marks⁶. The essay does not have the kind of cultural 'currency' it once did, and students *and* their professors, even those who routinely assign this task, recognize this. Like tests, essays today are symbolic artifacts exchanged for marks, which in turn are exchanged for degrees, which buy not only cultural capital (i.e. a 'higher education') but a place in the 'market'—a job

(Noble, 1998). As Jean Lave and Etienne Wenger (1991) foresaw some time ago:

The commoditization of learning engenders a fundamental contradiction between the use and exchange values of the outcome of learning, which manifests itself in conflicts between learning to know and learning to display knowledge for evaluation. Testing...is perhaps the most pervasive and salient example of a way of establishing the exchange value of knowledge. Test taking then becomes a parasitic practice, the goal of which is to increase the exchange value of learning independently of its use value. (p. 112)

Turnitin's growing popularity suggests that the values previously placed upon originality and autonomous authorship are being redirected towards the organization of information with authorship and originality now symbolically affirmed through better policed and more tightly (and widely⁷) regulated practices of citation. Just as Lyotard foreshadowed, the purchase and use of software like Turnitin signals that along with computerization, knowledge has already shifted dramatically. This intensified policing of citation practices, alongside a purely technical attention to discerning a text's quality, correctness and its educational value and significance for the student-writer, seem key indicators of this shift. The classic problem for academics, Lyotard proposed, would become legitimation: in place of questions of truth are questions of efficiency—how might output be maximized with minimal input? In this pursuit, and under conditions of massive information access, the production of information must take second place to the redeployment of existing information and its (re)organization in new ways and for new purposes (Lyotard, 1984).

The technologies we now have to hand are uniquely equipped to execute such a trans-valuation of epistemic values. Students who have grown up in the computer age view knowledge and its production as a matter of locating existing information and repurposing it in maximally efficient ways, meaning, of course, minimizing their 'inputs' while maximizing their output. As such, they are working from a very different, technologically redefined epistemic rationality from many of their professors. It should be no surprise, given that, to find many students baffled about what is wrong with what they are doing, and what it is we want from their essays. We can insist that they 'cite their sources,' and we can teach them 'when and how to cite,' but this amounts to little beyond an ornamental response to the underlying educational problem university educators are experiencing. This is better understood as a chronic and pervasive inability to manage complex ideas and information in the production of a well-informed and artfully composed argumentative text. And from an *educational* standpoint, we argue, resorting to technologies like Turnitin makes matters worse by making appropriation a vastly more

dangerous practice for students both overstretched and under-supported by ill-suited and ill-fitting institutional performance requirements.

On the Turnitin web site (as on other similar university web sites throughout the USA and Canada), a very clear protocol for 'when to cite' is listed. While not in itself alarming, this prescription warrants further consideration. What does it mean, for example, to have to reference every time we 'use an idea that someone else has already expressed' or to indicate 'whenever someone else's work has been critical in developing your own ideas?' Since when have academics or writers of fiction more generally faithfully accomplished this? English literature, for example, is notoriously *bad* at literally acknowledging its sources. As a result, its literature and scholarship has sustained itself by making *clear* those connections. Think here of your high-school English class and that dreaded poetry unit—how much of the discussion was trying to work out what other poem/poet the piece you were reading was invoking? How often did you hear that a well-reputed author had 'reworked' or 'rewritten' or 'borrowed' pieces from another author? And how often did she/he cite, footnote or document what they were borrowing from? If citational practices are taken as an example of how knowledge has changed, it is easier to understand those practices as means for legitimation. Freed from the burden of truth as centrally important, there is now the burden of efficiency and the mark of a 'good' essay is not necessarily the ideas put forth, but whether and how it adheres to correct form.

The authority of an author, including the connections that he/she makes to other author/s, whether acknowledged or not, challenged or not, has been a subject of debate among literary critics for some time. In his essay 'What is an author?' Foucault (1979) argues that, despite some literary theorists' claims, the authority of the author remains intact, an 'ideological figure.' It is precisely that ideological and still very much intact authorial authority which institutions like the university are struggling to maintain. Foucault anticipated this struggle, pessimistically indicating that rather than the fading of 'author-ity', a new 'system of constraint' would preserve the 'author-function.'

In the section which follows, we use Turnitin as a manifestation of this new system of constraint, and show how its corporate web site interpolates its 'target market,' that is, how Turnitin constructs, represents and 'hails' its audience (Althusser, 1984).

Turnitin Semiotics

On a semiotic analysis of Turnitin's site design, what stands out first is its simplicity: its color scheme maroon, silver-grey and white with black text, each page anointed with a single image in 'black-and-white,' a 'retro'⁸ representation of better, simpler and presumably more *honest* times. On the 'Plagiarism prevention' page sits a young black girl in a cotton sundress

reading a book at her desk. It is 1960, or so. The ornate centerpiece in her cloth book cover might indicate a collection of fairy tales. Or perhaps she is learning about how to avoid plagiarism...

Turnitin's home page (<http://www.turnitin.com/static/index.html>) offers the image of a young white boy about seven with slightly ruffled dark hair, white shirt, at his desk, hunched over his book, his hands pressed near but not quite over his ears. He is perhaps blocking out all but his own concentrated knowledge-construction, and any temptation to see or hear the ideas of others. This is not collaboration time. The 'Free Trial' section sports a grainy black and white image of six tweed-suited university men jostling to get a closer look at a floor decoration, a kind of puzzle diagram—perhaps they are jockeying to be first to decipher the image for themselves? The 'Press' section of the web site has young black boys reading concentratedly at their wooden chairs. Frowning, serious, their eyes are glued on their books.

'Research,' by contrast, is one of the very few images of women in the Turnitin site. These are cheerleaders; three of them, with bullhorns.

'Support' is graced with the photo of three white male students in their classroom rows working in textbooks, seen from the rear, hair slicked down. A teacher, also white and male, leans over one student's workbook, pen in hand, correcting; an image that can be read as a form of acceptable assistance.

Making epistemic authority incontrovertibly and visibly evident, a large globe with four children and two teachers, one elderly and bearded, all male, is the image for the 'testimonials' section: its text reads, 'I used Turnitin.com with three papers last term and two of the three were plagiarized. The generated report proved undeniable proof for parents and students. The resulting zero on the final paper was undisputable' (<http://www.turnitin.com/static/testimonials.html>)⁹.

What stands out in Turnitin's web site, both iconographically and textually, is a consistent nostalgic return to the past, to the fifties, for the most part, using old photographs whose source, incidentally, is unacknowledged—the crisp black and white characters are emblematic of the clarity with which intellectual integrity can be seen, can be scientifically and precisely 'detected.'

This return to 'better times' is fictitious, a misrepresentation of how decent intellectual work was ever accomplished and presumes the legitimacy of a restructuring of teaching, learning and knowledge production. Such a view surrenders educational values for economic values, as educational production (in this case, in the archaic and culturally exhausted form of the essay) is progressively reoriented away from use value and towards exchange value (c.f. David Punter's [2001] 'The death of the essay'). We have argued that Turnitin and similar 'educational' technologies, in terms of the kinds of compositional processes it alternately promotes and prohibits, is a reductive, fragmented and educationally damaging product for

both students *and* professors/teachers, as well as being ethically in direct violation of its own purported ethics with respect to 'intellectual property rights.'¹⁰

Significant as well is the deeper question of Turnitin's appeal to educators and educational administrators, and we here characterize that deeper concern as a species of anomie and alienation which has been a direct result of the (technologically mediated) reorienting of public education towards economic models of investment and return, rather than cultural and educational models of social identity and self-formation. Finally, in the latter part of this paper we suggest a way of recasting the productive work of education which will neither require the kinds of ethically and epistemically degenerate 'solutions' that are currently such hot properties on the education market, nor abandon education's traditional value sphere, in which questions of worth are regulated by the ends of social and self-formation, and 'worth' is defined by human/e use, not commodity exchange.

What's Wrong with This Picture, and Where is Technology's Hand in it?

*In general, new technologies have minimized the technological separation of producer and consumer. It is a shift of some significance that the computer we read on is also the one we write on, whereas the book we read is very different from the manuscript we write...What the French historian Michel de Certeau calls 'poaching'—the act of taking text from someone else's writing to use it in your own—is not merely a feature of high modernist works such as Joyce's *Ulysses* or Eliot's *Waste Land*. It is...an everyday occurrence. (Brown & Duguid, 1994)*

What can we make of 'originality' in a self-proclaimed knowledge economy, for which public schools over the last two decades have been training on a mass scale? We have supported schools in promoting a kind of market-oriented vocationalism in which the student is encouraged to become a 'savvy consumer,' and the valorization of 'learning to learn' about how to access information over the personal possession of knowledge.

In the move from an essayist form in which an individual worked to give voice to her/his own arguments/ideas, to the deployment of the essayist form for the organization of 'bits' of information redeemable for a grade, citation practices are central to a project of literalness—a compilation and arrangement of information mistaken for and 'counting as' knowledge. What this type of thinking can generate is a kind of amnesiac synecdoche, whereby parts stand in for a whole that is wholly absent. Take, for example, a recent Master's thesis for which Jenson was invited to serve

as the external examiner. In this work, the student had taken as her central theoretical tenet a perspective (actor network theory) which she attributed to a scholar who had briefly mentioned it in an article he wrote on a different subject altogether. Carefully noted and acknowledged throughout this thesis was language like ‘as X’s actor network theory indicates’—without, however, the slightest indication or recognition of the ‘original’ source in her version of the theory or in her bibliography more generally. This example does not just implicate the student—two senior academics had ‘signed off’ on the work before the exam. In this example, citationally obedient scholarly performance has gained legitimacy in the credentialing of disciplinary competence, bolstered by a disinclination on the part of both the student and her professors to recognize, formulate or make connections to a larger whole (a body of scholarship on Actor Network Theory). Perhaps that is one reason why Turnitin has been so successful at seducing university administrators—it offers, and delivers, a kind of ‘black and white’ judgment on a piece of work that can no longer be afforded the time¹¹ or the effort to read.

Technological Re-remediation: alteration and collaboration

[Y]et I was, by the endeavor, a better and a happier man than I otherwise should have been if I had not attempted it; as those who aim at perfect writing by imitating the engraved copies, tho’ they never reach the wished-for excellence of those copies, their hand is mended by the endeavor, and tolerable, while it continues fair and legible. (Franklin, 1771, p. 41)

Philosophy, ‘enfleshed’ as it is in language and text-based representational forms, has clung to modernist delusions of autonomy, of a single, authoritative voice, and education has followed suit. But that voice, so Bakhtin and others have pointed out (Derrida, 1972; Foucault, 1979; de Certeau, 1988), has always been distributed, and indeed polyvocal; this is simply more evident in the new media environments afforded with today’s technologies. Peter Taylor’s (1996) analysis of the challenges of distance or so-called ‘open’ learning is useful for the more general case of the challenges to education’s technological re-mediation. Taylor argues, following Brown and Duguid (1994), that when we survey our array of educational tools, we tend to overlook important resources which make up their context or background. Part of the complexity of the plagiarism issue resides with the changing nature and function of the ‘border resources’—discursive and linguistic and technological artifacts like essays, articles, books and search engines—that sustain the illusion of apparently autonomous intellectual work. We stress, following Brown and Duguid, ‘the fundamental inseparability of objects and their contexts’ (1994, p. 7) in order to make apparent the essential educational work border resources do in scaffolding and supporting academic practices.

The notion of language as an autonomous representation of meaning (Olson, 1977) derives from the (modernist) presumption that well-formed language use enabled the unambiguous communication of ideas from writer to reader, because of language's capability to preserve 'the very words' in their original, unaltered form. But while 'the very words' are socially shared boundary objects which form a bridge between producers and consumers of meaning, their meanings, functions and uses can vary quite a lot on each side of that bridge. When we imagine we are interacting with words alone, we have lost sight of the border resources which give words their qualities of depth and weight and purpose. Taylor (1996) reminds us that 'borders arise through social practices' (p. 65) which circumscribe and constrain their interpretation and the portability of linguistic artifacts encourages us to forget this. What technologies like Turnitin cannot accommodate is the fact that a particular linguistic formulation in one setting—that of market-oriented literary or scholarly production, for instance—might count both epistemologically and ethically as something quite other in, for instance, an intentionally educative one. The activities of production are different, their ends are different, and the ethics governing their optimal and acceptable uses vary accordingly.

When communities change, when their tools and background knowledge, their motivations and purposes, their routines and procedures change, that instability destabilizes apparently stable interpretations—we preserve the artifacts ('the very words,' for example) but we are unable to stabilize or to preserve their meanings, functions and uses. Our reliance on the continuity of an artifact's properties, therefore, needs to be seen as a kind of seduction, a 'bewitchment of the intellect,' for which the sole corrective is closer study of particular, contingent social processes by means of which boundary objects are brought to life in a particular context. Taylor (1996) illustrates: 'While an artifact may remain relatively constant as it moves from community to community, its authority may not' (p. 70). Nor, we would further insist, does either that artifact's originality or its value or its producer's 'intellectual property rights.' Taylor goes on to recount an interaction between a sales assistant and a customer in a fashion accessory store: 'The assistant showed the client a pendant—a metallic cross on a chain. The client...replied "Oh that looks really nice, but have you got one that has that little man on it?"' (p. 70). Citation by no means establishes that a re-citer has either adequately comprehended or appropriately engaged and deployed a text's significance. These are things which are learned, not as part of a regime of citational truth-telling, but often through the inverse, that is, through practices of repetition, imitation, appropriation and even out-and-out copying of works far more accomplished than any which could be devised through a student's own, informational, rhetorical and intellectual resources.

This paper has attempted to chart the migration of a concept central to education—intellectual appropriation. This concept, we have shown, has

moved away from practices of imitation whose integrity and legitimacy as 'fair use' were once taken for granted as necessary for the formation of the educated person who over time might hope to develop through internalization of venerated models, a hand, a voice and a mind of his/her own, toward relocation within a 'marketplace of ideas,' where knowledge is owned, and its *unauthorized* use is disparaged as theft.

In a recent *New Yorker* piece, Tobias Wolff (2003) describes a school culture in which writers (and English teachers who taught their work) were venerated above all else; a culture in which students wrote essays and poems in competition with each other for the right to a private meeting with the visiting novelist or poet who would adjudicate their submissions and bestow the honor on the writer judged most worthy. He writes:

I'm not exaggerating the importance of these trophy meetings. We cared. And I cared as much as anyone, because I not only read writers, I knew about writers. I knew that Maupassant, whose stories I loved, had been taken up while young by Turgenev; Faulkner by Sherwood Anderson; Hemingway by Fitzgerald and Pound and Gertrude Stein. All these writers were welcomed by other writers. It seemed to follow that you needed such a welcome, yet before this could happen you had somehow, anyhow, to meet the writer who was to welcome you...I wanted to receive the laying on of hands that had written stories and poems, hands that had touched the hands of other writers. I wanted to be anointed. (2003, p. 71)

Where in the poetry and prose which we 'deliver,' whether in books or online, are the hands which had written, and the hands these hands had touched? Without these invisible hands, these evacuated border resources, what can the poem do to elect and anoint novice writers? And without such selective election, what energizes and moves young writers to read and study and care passionately enough to cultivate disciplined literary production? If, as Wolff claims, writers are anointed by other writers, they are also not so much 'born' as self-made (as the quote we began this piece from Franklin recalls), although self-made by others' hands. Telling of editorial group meetings to select which pieces should be published in the school's literary magazine, Wolff (2003) describes the active intersection between imitation and inspiration, and how, oddly, students both recognize this remarkable borderland, and yet never speak about it. He explains:

All of us owed someone—someone, and more than someone. We wouldn't have admitted it in so many words, but the knowledge was surely there, because the charge of imitation was the only charge we never brought against the submissions we mocked so cruelly. There was no profit in it. One crystallized, consciousness of influence would have been fatal to the collective and necessary fantasy that our work was purely our own. (Wolff, 2003, p. 72)

It is this 'fatality' we embrace in the current frenzy over originality as the obverse face of plagiarism, and our contemporary view of intellectual integrity as the autonomous construction of one's own knowledge, the exposition of which must be peppered with references and citations to whatever has been supported by the work of others. It is a very different matter to copy someone's work in an information economy, where appropriation and application are the end points of intellectual work, than to use others' words in an educational context as an indispensable means to the development of one's own voice. And yet, it is precisely this new 'system of constraint' (Foucault, 1984) which no longer affords that kind of engagement. Put another way, 'appropriation' is nearly impossible in a proprietary, litigious system that protects intellectual enterprise as a solitary, capitalistic endeavor.

Appropriate Pedagogy

Given an intellectual environment which legitimates and gives currency to knowledge production and consumption in a marketplace of ideas, it is no wonder that pedagogies have also shifted, prioritizing student-centered meaning-making (labeled as 'constructivism'¹²) often in opposition to pedagogies of 'instructivism' (e.g. lecturing) frequently characterized as more 'transmissive,' and *less* 'effective.'

The lecture, however, has always been much more than an unproblematic transmission of information from lecturer to those being lectured at; it is, in fact, predicated on interaction and a common understanding. For example, it is tacitly understood that prior to a lecture on a given topic, students prepare by reading the material that was tabled for discussion that day, and in so doing construct their own questions based on the readings. Lectures were rarely, if ever, 'required'—students attended or did not (not necessarily the case today as universities jockey to fill quotas, and students are more often than not, at least at the undergraduate level, required to attend class as part of their grades). In the past, the lecture could be seen as having primarily 'use-value'—good grades were not 'exchanged' for attending a lecture. Further, while the lecturer would indeed, 'lecture' on the topic, this was by no means seen to be a uni-directional process—students were expected to ask questions, give commentary, participate, interact. The lecture, as then understood, was always reliant on prior knowledge, and its 'uptake' by students was partial, at its very best. While the form of the lecture, then, is arguably transmissive, its substance is implicitly 'interactive'—students 'take up' and use what they can and will, based on innumerable cultural factors and prior knowledge.

While the merits and pitfalls of instructivist versus constructivist learning have been lobbed about for some time, there does seem to be, at this point, some agreement that the stronger, more effective pedagogical model is the latter. The result has been a clarion call by 'those in the know'

for a move away from standard, old-fashioned lecture forms in favor of more 'hands-on,' student-centered, collaborative, constructivist work.

In relation to technology and teachers in particular, 'constructivist pedagogy' has figured prominently as educators and researchers have struggled to describe how teachers might best, most appropriately, make use of these new tools. In the 'Apple Classrooms of Tomorrow' research project, for example (a project funded and researched by Apple, but which nonetheless has and continues to have significant 'weight' in the field), Sandholtz *et al.* (1997) argue that teachers who made use of a more inquiry/constructivist approach were best able to integrate computer use across the curriculum for their students. While technological practices, purposes and uses in schools are not necessarily viewed as primarily enacting constructivist principles, they have been viewed by many as best enabling that kind of learning and teaching (Sandholtz *et al.*, 1997).

We are reminded here again of Lyotard's view of the role of technology in knowledge transformation with corresponding changes in how we learn and what it is to know. The current push for educators to adopt a more constructivist pedagogy, we argue, reflects such change. Take, for example, any course where student knowledge is primarily classified as novice, and then ask those novices to work together in small groups on a problem that when 'solved' is meant to have 'real-world' application which will then be graded (groupwork + production = exchange value/grades). Now, while expertise will certainly be distributed between and among the various groups, all of the students are primarily novices—this course is their introduction to the subject matter. How, by asking them to work in groups, is their subject-matter knowledge being contributed to when it is nearly non-existent to begin with? What does it mean to ask students to participate in knowledge construction when they have little or no knowledge of the subject generally? And what does it mean for the quality of their work, in the current moral panic over plagiarism, to ask novices to 'construct new ideas'?

Harnessed to a knowledge economy that polices student appropriations as 'crimes against property,' what constructivist pedagogy asks students to do is to create in a vacuum—released from obligations to mobilize prior knowledge of a particular subject matter and without having first attempted to follow a more capable other's work, or thoughts or ideas. Imagine, for example, taking a group of people skiing for the first time whose only 'experience' of mountains and snow has been textual. Once at the mountain, you inform the group that you'd like them to 'discover' a means of transporting themselves more efficiently and effectively through the snow than walking. You give them all the necessary equipment to construct snowshoes and/or skis (which, recall, they never have seen before, let alone have experience or skill using) and you leave them to 'figure it out for themselves.' What they design will probably be some crude form of snowshoe or ski—something which is not nearly as func-

tional—either in form or in use—as the technology we currently use. Now, imagine instead that the group had begun with access to and an understanding of snowshoe or ski design, that they had ‘copied’ current standards and could replicate, once on the mountain, those designs. What they created (from a copy) is in both form and function, much better for getting across the snow, but judging by current educational ‘standards,’ both less valued and less valid, to the extent that it was copied.

Current pedagogical preoccupations with constructivist teaching and learning ‘compliant’ with the definitions of intellectual property and encoded in conceptions, practices and technologies of ‘plagiarism detection’ result, we would argue, from an epistemological amnesia unable to recognize the foundational premise of the learning theory that itself inspires such a pedagogy: that imitation is one of our most reliable educational means. Whatever happened to imitating an argumentative style or Shakespearean sonnet to gain familiarity with its form and function and to appropriate its ‘devices’ for one’s own ideas, purposes and/or themes? Or what about the scientist who reproduces an experiment in order to test it under different conditions or just to replicate it for verification? Aren’t these acts of imitation? Copy? And are they less educationally valuable or epistemologically valid for all that?

Knowledge Re-use

The unassisted hand, and the understanding left to itself, possesses but little power. Effects are produced by the means of instruments and helps which the understanding requires no less than the hand. (Bacon, 1854/1996)

Technological networks, systems and supports have made new intellectual practices not just possible but unavoidable: new forms of research, new ways of composing and, above all, new and more obvious forms of appropriation and reuse of knowledge resources. In one sense, then, new technologies have increased our intellectual dependence upon the work of others, and have, correspondingly, eroded traditional academic values of originality, invention, intellectual autonomy, epistemic ethics. In another sense, however, what this increased dependence upon new technologies has done is enabled us to see more clearly what was always the case: that intellectual work is always recapitulative, derived, dependent upon the work of others, and the figure of the lone scholar out of whose original mind springs autonomously constructed intellectual products is an ideological notion whose own origins are historically and culturally quite specific, whose epistemic and educational value is largely symbolic and whose function is to obscure from view the many ways in which autonomy is symptomatic, not of originality and independence of mind, but of power over resources and independence of means¹³.

We contend that educational and indeed intellectual development requires us to do precisely what our earlier reference to Tobias Wolff's (2003) boyhood confreres did: they never allowed themselves to mention the models whose work they more, and then less, slavishly imitated, knowing as they did that such explicit acknowledgement would destroy for them the illusions of originality so necessary for the kind of arduous and dedicated learning in which what one knows and can do is inseparable from what one has been enabled to become. It is only in retrospect, if indeed at all, that most of us can see and acknowledge our great dependence upon the work, the words, the ideas of others. This convenient fiction assists and enables novices to learn, to take on, then gradually to master, the trappings of genius to which all of us who do intellectual work immodestly aspire. How could it be otherwise? The unassisted mind, as Bacon insists, can do little on its own, nor indeed is it assisted by acknowledging that important fact.

Prevented from extending our grasp with the 'instruments and helps' not of our own making, the constructivist classroom too easily risks embracing a caricature of postmodern pedagogy, where anything and everything is acceptable, so long as it is 'one's own.' Ungrounded speculation, fabrication and fantasy, fragments of hearsay and opinion, the wit and wisdom of last night's television reality show...in a frenzy of constructivist 'meaning-making' out of these shabby and ill-considered elements, meaning is less made than forged, made up. This is a pretend kind of meaning, an 'as if' kind of meaning whose weight and substance is evacuated in the name of authenticity, and claims and suggestions that would have been laughable if not outright reprehensible can be benevolently received, indeed even seriously considered, as the student's own attempt to construct his/her own meanings.

The particular case of Turnitin technologies stands for us as symptomatic of a powerful irony at the heart of technologically re-mediated education. Its central hypocrisy is that precisely what in the name of education we encourage for ourselves, we prohibit for our students. Emerging as the privileged form, the 'paradigm case' of educational technologies, is what has been termed the 'learning object.' Definitions of learning objects tend to be both broad and optimistic. Wiley, for example, determines a learning object is 'any digital resource that can be reused to support learning' (2000, p.7), while Hodgins proclaims that learning objects will 'forever change the shape and form of learning and increase and improve human learning and performance' (2000, p.1). Accordingly, a learning object is a 'knowledge resource' characterized by two capabilities: interoperability and reuse. Interoperability means that the same 'element'—a video of the circulation of the heart, a template for lesson planning, a 3-D model of a bird in flight—can be articulated with other elemental objects in custom-built learning systems tailor-made for specified user groups.

A learning object, then, might be seen as a kind of 'knowledge

fragment' capable of being joined up with other fragments to compose an instructional 'whole' suited to a targeted learner group. Reusability refers to the capability of learning objects to function in a variety of quite different contexts, their susceptibility to be transported from, say, an undergraduate education course, to a teacher-training program in Ghana, to a fifth-grade classroom. Both terms derive from the idea that a good learning object is something other people can pick up and turn to their own devices, in their own contexts, in ways that best suit their local and particular needs (Wiley, 2000). Learning objects are stored in 'repositories,' conceived as infinitely large data banks for which, unsurprisingly enough, access fees can then be charged. Accordingly, on one web site devoted to research, documentation and 'sharing' of learning objects, there appears a 'learning activity' about the purposes and uses of learning objects (cf. http://learnware.uwaterloo.ca/projects/CCO/cloe_waterloo_sharing_act1.html). The first quiz question asks 'When the learning object creator first decides to share their learning object, what do you think is the greatest challenge?' and the answer is 'intellectual property.' The central 'challenge' of learning object technology, therefore, is this: How can we reuse objects which are someone else's property?

The notion that knowledge, ideas and configurations of words can be 'owned' by particular individuals—not, we stress, necessarily their originators but rather those who have paid the requisite fees to own, or at least 'license' that knowledge, those ideas, that particular configuration of words—is of course what lies at the very heart of the current frenzy over plagiarism and academic dishonesty. We are prohibiting students from using others' work not because we want to educate people better, but because we want to make more money. And here is the other powerful irony: what we want to make money from is other people's knowledge, ideas, words.

In this paper we have considered just one case in point, showing that to do the (profitable) work it does, the Turnitin detection system utilizes the vast data banks created by others and stores them on server systems owned and operated by others in order to search for the similarities whose detection is its stock in trade. The company could not deliver its 'product'—plagiarism detection—without accessing, appropriating, analyzing and reproducing other people's texts, for whose use, however, Turnitin neither seeks permission nor gives credit. Ironic too is that, on the one hand, it is making unauthorized use of other people's work—including the student essays it has had 'turned in' for screening, in order to produce a 'deliverable' which is sold to educational institutions for profit. On the other hand, 'originality' as the basis of intellectual property is fetishized in order first to create and then to condemn a rigorous but miscast conception of plagiarism. In this technological object lesson we see that the unauthorized use of others' work for profit is not only acceptable but *valorized* as an innovative instrument for the promotion of originality and intellectual

autonomy—the hallmarks of academic integrity—while the unauthorized use of others' work is prohibited as an intellectually dishonest process of learning. The ethics of this new political economy of knowledge endorses the use of others' work for profit, but prohibits its use for learning.

The purchasing of technologies to police intellectual integrity not only violates, itself, those very principles but, more importantly, misrepresents 'plagiarism' as 'quickly becoming part of our educational culture' (http://www.turnitin.com/static/about_plagiarism.html) when we have known for a very long time in education that one of the most powerful ways we learn is through imitation and appropriation, that education cannot survive without it, and that 'autonomy' has always been a fiction.

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NOTES

1. For a discussion of other 'object lessons' in which educational technologies are re-mediating educational knowledge and practice, see, for example, http://www.firstmonday.dk/issues/issue7_1/castell/
2. Lyotard defines 'performativity' as the optimization of input to output, which he views as the 'generalized spirit' of knowledge in a post-industrial society.
3. 'Turnitin.com presently protects more than 5,000,000 students in over 50 countries, and adds another new user once every twenty seconds' (http://www.turnitin.com/static/our_users.html).
4. Asking if Turnitin infringes student copyright, the web site explains that 'casual analysis ...will not suffice...when the use in question is novel, as is the TURNITIN system for plagiarism detection. For that reason, iParadigms, the owner of the Turnitin.com system, and its sister site, Plagiarism.org, sought expert legal advice before launching the TURNITIN system, and have continued to do so during its operation. Based on extensive analysis of all aspects of the TURNITIN system, we have concluded that its use does not pose a significant risk of infringement of any copyright in written works submitted to Turnitin.com for evaluation' (http://www.turnitin.com/static/legal_document.html). This opportunistic ambiguity seems hypocritical given the 'system's' dedication to the preservation of 'intellectual property.'
5. Worth noting here, however, is that Turnitin claims only to provide neutral data for the teachers to make their *own* decisions, stressing that professional judgment is not usurped or compromised but is carefully quantified and documented: 'The information contained in the reports *lets users determine for themselves* the extent to which any given work is plagiarized or original' (http://www.turnitin.com/static/services_1.html).
6. Think here of how essays are currently required to be 'packaged' by students from specific font size and choice to line spacing, the setting of margins, and appropriate attachments like cover pages and the well-policed bibliographic entries, and how this might possibly suggest that the essay (and its ideas) are discrete, marketable units that need to be 'well presented.'
7. Working in a faculty of education, we do get to see plenty of occasions where student teachers are warned about the need to teach the rules of citation for elementary children's research projects. Today children are being lectured about the appropriation of other people's work as 'theft,' as the public school develops for them embryonic conceptions of 'intellectual property rights.' Exactly at a time when, within educational

theory development, the learning theory in ascendance is of learning as 'appropriation' (e.g. Lave & Wenger, 1991; Wertsch, 1998), this combination of intellectual property ethics with an educational epistemology of appropriation makes for a bifurcated and profoundly contradictory learning environment. As we'll later suggest, to pursue these contradictory goals through a pedagogy of constructivism compounds the error.

8. We are using 'retro' here to signal two significant visual aesthetics which are evocative of the past: the use of black and white photography and clothing and idealistic posing of the subjects suggests a 1950/60s look which has been recently fetishized in popular culture.
9. With respect to 'indisputable' and 'undeniable' proof, worth noting here is the company's claim only to provide neutral data for the teachers to make their *own* decisions, stressing that professional judgment is not usurped or compromised by its carefully quantified and documented 'originality reports': 'The information contained in the reports *lets users determine for themselves* the extent to which any given work is plagiarized or original' (emphasis ours, at http://www.turnitin.com/static/services_1.html).
10. Writing in a recent book on postmodernism, Stuart Sim (2002) recalls Jacques Derrida's playful critique of intellectual copyright: 'Thought [for Derrida] is considered a collective endeavour in which we all participate, but without any one of us being able to claim ownership of particular ideas' (p. 45).
11. While proclamations of 'limitless knowledge' on the Internet are vastly overstated, still it remains the case that students' access to textual resources has impossibly increased from the standpoint of professors, and detecting this 'for oneself' requires far more time and attention than the output by the student either seeks or merits.
12. For an especially lucid distinction between constructivist and instructionist pedagogical models, see Harel & Papert (1991).
13. For what remains possibly the best gender-focused analysis of this myth of the autonomous 'lone scholar,' see Dorothy Smith (1987) *The Everyday World as Problematic*.

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