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IVORY TOWER GRADUATES IN THE RED: THE ROLE OF DEBT IN HIGHER EDUCATION

Students who acquire large debts putting themselves through school are unlikely to think about changing society. When you trap people in a system of debt they can't afford the time to think. Tuition fee increases are a "disciplinary technique," and by the time students graduate, they are not only loaded with debt, but have also internalized the "disciplinarian culture." This makes them efficient components of the consumer economy.

—Noam Chomsky¹

Introduction

Although anecdotes and auto-ethnographic storytelling are considered by some not to be as credible as statistical data are, it is our contention that more scholarly counter-narratives (Bamberg & Andrews, 2004; Bochner, 2012) should be written in order to better understand how injustice affects people in their everyday lives, including here those in academe. Counter-stories have the power to elucidate financial realities that otherwise would not be shared or known. These stories have the ability to counteract the *bon sens*, or ordinary understanding, that the general public believes to be credible but that the disenfranchised know to be invalid and incorrect.

The purpose of this article is to shed critical light on the financial hardships that many individuals, the first author included, experience while earning and paying for advanced degrees. As a young tenure-track assistant professor of educational foundations, Nicholas shares his personal experiences of incurring a great amount of student debt while earning his Ph.D. The second author, an older associate professor, analyzes his account, both during and after, from a critical financial perspective, and both authors conclude with recommendations for all Ph.D.s—whether newly minted, up-and-coming, or long established—especially those in the field of education. The take-home message of this article is that unless we in higher education join together and with others outside academe to analyze, understand, and supersede our approximately 300-year old private-interest- and debt-based monetary system (Zarlenga, 2002), we will all continue to experience the escalating exploitation and degradation of both our "labor power" (Marx & Engels, 1848) and the diversity of life and natural resources upon which human survival depends (Bowers, 2006).

¹ Speaking on "The Cost of Public Education," quoted by <http://targetedindividualscanada.wordpress.com/>, May 24, 2011 (search there for "Chomsky on student debt").

In the Beginning

As an undergraduate student at Winona State University (MN) studying to be a teacher, I was very eager to graduate. I was pursuing a bachelor's degree in elementary education with an endorsement in middle school mathematics—and in the corner of my mind I hoped one day to become a professor of multicultural education since educational equity has always been important to me as a person of color. However, I knew that I needed teaching experience in order to become a professor of education as well as an intermediate, or master's, degree before I could pursue a Ph.D. I also knew that I needed cultural and international experiences if I wished to someday teach multicultural education courses. For these reasons I studied abroad in Granada, Spain, and student-taught internationally in Quito, Ecuador. [Lucille: While these cross-cultural experiences were, to quote the famous *Visa* ads, undoubtedly “priceless” for Nicholas, they came with a heavy price tag, some of which was covered through his student loans and the rest of which—to *Visa*'s good fortune—he put on his plastic. While Nicholas rightly thought this investment in his future was worth it, by time he is done paying *Visa* off for it, it will be worth a lot to *Visa* too.]

As all indebted college graduates can attest, there are two certainties that occur after the commencement ceremony: You will be contacted by your alumni organization and asked for money, and you will be contacted by your lender and reminded about your loan(s). After graduating in the winter of 2006, my plan was to take any long-term substituting jobs that I could and begin applying for a permanent position the following summer. I also was informed that my student loans would begin to become due since I was no longer a college student.

How a Teacher Makes Money

During this interim period while I substitute taught day-to-day, I earned approximately \$99 a day. I quickly learned that this was not ideal for me both as an aspiring teacher and a person in debt. I was fortunate to find out about an induction and mentoring program that provided “inexperienced” teachers (defined as 1-2 years of prior elementary/middle school teaching experience) with intense clinical supervision. As part of this yearlong induction program, participants would earn their Master of Science Degree (M.S.Ed.). The logic behind the Graduate Induction Program (GIP) was that the induction and mentoring that teachers received would improve the school district as well as diversify its teaching force, since candidates from underrepresented ethnic/racial groups were encouraged to apply for the program. The program also entailed financial incentives for teachers since, assuming they could keep that or get another teaching job, the following year graduates of this program would make more money because they would have their master's degree. The logic was that it is best to obtain your master's degree early, maximizing your career earnings as a teacher (see Table 1). [Lucille: In addition, as a graduate student, Nicholas would be able to defer payments on his existing student loan, although interest might accrue unabated, as it would on unpaid credit card debt.]

As the salary schedule in Table 1 exemplifies, each step (or year of service) that a teacher works leads to a salary increment. But by earning a master's degree, a teacher also moves three lanes to the right, thereby qualifying for more per year than does a teacher with only a bachelor's degree. For instance, in year one in the Rochester Public School District, a teacher with a master's earns \$6,502 more than a teacher with a BA. By year three the differential is \$7,788, by year five it is \$8,148, and by year eight it is \$12,995 at which point, in this district, the differential plateaus. I was sold on getting a master's degree sooner rather than later. After applying I was successfully hired as a GIP Fellow. My teaching contract stated that my graduate tuition and fees would be paid for by the Rochester Public Schools (RPS) and that I would attend night class on Wednesdays at Winona State University (WSU), Rochester campus. I would be assigned a second-grade class to teach, and in addition to the remission of tuition and fees, I would receive a modest \$11,000 stipend for the academic year—perhaps enough for some frugal, young, idealistic educator to survive on, but not for anyone with dependents.

Table 1. *Rochester Public Schools 2011-2012 Teacher Salary Schedule*

STEP	BA-0	BA-10	BA-20	MA-0	MA-10	MA-20	ED SP	DOC
1	34396	36357	38642	40898	42064	43406	44595	47082
2	35239	37329	39811	42268	43570	44895	46049	48514
3	36371	38731	41456	44159	45491	46816	47962	50405
4	37501	40055	43078	46031	47379	48707	49884	52296
5	39925	42770	46061	48073	48571	49859	51016	53415
6	41025	43944	47326	51310	52716	53976	55789	56754
7	44430	47533	51132	54563	56058	57396	59279	62153
8	44430	47533	51132	57425	58977	60367	61509	64495
9	44430	47533	51132	57425	58977	60367	64009	67073
10	44430	47533	51132	57425	58977	60367	64009	67073
11	44430	47533	51132	57425	58977	60367	64009	67073
12	46230	49333	52932	59225	60777	62167	65809	68873
13	46230	49333	52932	59225	60777	62167	65809	68873
14	46230	49333	52932	59225	60777	62167	65809	68873
15	46730	49833	53432	59725	61277	62667	66309	69373
16	46730	49833	53432	59725	61277	62667	66309	69373
17	46730	49833	53432	59725	61277	62667	66309	69373
18	47230	50333	53932	60225	61777	63167	66809	69873
19	47230	50333	53932	60225	61777	63167	66809	69873
20	47230	50333	53932	60225	61777	63167	66809	69873
21	47730	50833	54432	60725	62277	63667	67309	70373
22	47730	50833	54432	60725	62277	63667	67309	70373
23	47730	50833	54432	60725	62277	63667	67309	70373
24	48330	51433	55032	61325	62877	64267	67909	70973

Note: From the website of Rochester Public Schools, Rochester, Minnesota <http://tinyurl.com/cu4d73z>

[Lucille: This means that RPS can get a first year teacher through GIP for considerably less than on the open market. For example, the WSU website indicates that, for 2012-2013, tuition and fees were \$6,820 and the GIP stipend was (still) \$11,000, which means RPS paid only \$17,820 for each GIP teacher, a savings of \$16,576 compared to hiring a non-GIP first year teacher with only a BA. If a GIP fellow successfully earns the master's and is rehired by RPS, s/he will get a salary bump of \$7,029 the second year (compared to the \$843 raise a second-year BA-only teacher gets), but RPS will still be \$9,547 ahead of where it would be if it had instead rehired a non-GIP, BA-only teacher a second year. It will take until the second month or so of a GIP graduate's fourth year before the district will start paying any more for the GIP-teacher's investment in his own education.

Since a teacher's fourth year is typically when a tenure decision is made, partnering with WSU is a sound investment for the school district. It gets a steady stream of new teachers, many of them highly sought after teachers of color, at lower initial cost than they could otherwise get them. Only if and when it is

ready to make a long term commitment to a teacher does RPS start to pay a price for having started with a GIP fellow instead of BA-only teacher, and by that point any BA-only teacher it might have hired and rehired instead would typically be going on for his or her master's anyhow, enabling the district to come out even after all. From the university's perspective, GIP is also a beneficial partnership. It attracts graduate students to WSU for whom WSU receives tuition dollars from the K-12 district (which is probably not where district taxpayers think their tax money is going), and WSU receives grant monies, we presume, to pay stipends to the GIP fellows, if not also to RPS Clinical Coaches who mentor the fellows. While it is not clear whether the following is where support for GIP comes from, the WSU College of Education website indicates (under its "Teach21" initiative) that it is one of 14 campuses in Minnesota, North Dakota, and South Dakota that are recipients of a \$40 million dollar investment over 10 years (2010-20) from the Archibald and Edyth Bush Foundation (founder of the Minnesota Mining and Manufacturing Company, better known as 3M) for NExT (the Network for Excellence in Teaching).

What is hardest to say is to what extent Nicholas benefited from this GIP partnership. While the teaching experience and master's degree Nicholas gained were valuable for his ongoing career, the cheap labor and borrowed money that participating in GIP required of him—the graduate student of color with inadequate financial means—may have cost him more than he gained, as he goes on below to explain.]

In 2007-2008, at the time of this program, I was married and had one child. My family of three subsisted mainly on my wife's income; she was a registered nurse. Toward the end of the school year I began to apply to Ph.D. programs. Since my family and I were geographically restricted to the Midwest, we ended up moving to Milwaukee, where I attended the University of Wisconsin-Milwaukee (UWM). I was admitted to UWM's Urban Education Doctoral Program (UEDP) and got a job in the Milwaukee Public Schools (MPS) district. For my entire first year, I was a full-time doctoral student by night, and by day I was a full-time first grade teacher.

Dilemma: Is Debt Ever Okay?

Anyone who knows a doctoral student, or has earned a doctorate him or herself, knows how much time is required to study and write. This reality caused me to face an economic as well as familial dilemma. Would it be best to work part-time on my Ph.D., while teaching full time, or leave K-12 education and attend the university as a full-time doctoral student? This was a professional dilemma because if I exited the classroom I would most likely never return, since after earning my Ph.D. I would lean toward higher education. [Lucille: This is not a fixed reality, however. Case in point: Author and educator Gregory Michie (2012) returned to the K-12 classroom after earning his Ph.D. and achieving tenure at two successive universities. But, while Michie managed to return to the K-12 classroom (while retaining a university affiliation as a research associate), the above salary schedule suggests that teachers with a Ph.D. may have priced themselves out of K-12 job markets.]

For me the decision was made when I learned I received a fellowship for which I had applied. Even so, the fellowship was a bittersweet pill for me to swallow since, to accept it, I would most likely also have to take out graduate student loans because my wife and I had another child now. Otherwise, we would have to rely on my wife's RN salary and my modest \$14,000 annual stipend.

Caught in the Middle

While on fellowship I had to live with the fear not only of living paycheck to paycheck [as at least 40-68% in the U.S. do, Lucille notes; see Forsyth, 2012; White, 2012] but also that I might fail to complete my Ph.D. but still have massive amounts of educational debt. Or, there was an even worse situation from my perspective: I might graduate with a Ph.D. and not be able to secure a tenure-track or academic position. This fear was legitimate because I have read in *The Chronicle of Higher Education* (e.g., Patton, 2012a) about people with Ph.D.s on welfare and food stamps and how tenure-track faculty make considerably more money than do contingent or adjunct faculty. As the contrasting paths of the Hopper sisters (2012)

reveal, neither debt-free but degreeless or Ph.D.'d but indebted and caught in the non-tenure track treadmill is satisfying. Given a choice, however, we and a growing number of others (Patton, 2012b) think the freedom of the former is preferable to the slavery of the latter. But only hindsight—or, perhaps, a critical and creative mind—is 20/20.

In the End Debt Is Endless

As a young doctoral student, I graduated when I was 28-years old. I found it considerably difficult to fund my Ph.D. financially. What do I mean? A Ph.D. is a research degree, not a practitioner degree (such as an Ed.D.). As such, it necessitates seemingly immense amounts of travel to present research findings at academic and scholarly conferences. Since my fellowship stipend was paid out once a month, many times I was forced to put charges (airfare, hotel, transportation, conference registration) on my personal credit card, hoping that I would be reimbursed through graduate travel awards that I applied for. Personal credit card debt seemed to pile up like firewood for a bonfire. In many ways, my educational debt was “consumer” debt. I would eagerly wait for a semester’s financial aid “excess” check so that I could pay down my credit card debt, which seldom occurred.

No One Ever Told Me That...

As a graduate student, I was naïve to believe that my lifestyle would be similar to many of the “famous” academics whom I read about and saw at all of the conferences I attended. I was also naïve to believe that I would publish a book or an article that might revolutionize teacher education as we know it, and that people in organizations and universities would pay me to come and speak to them about it. This is the one large, ever-looming lie that those in the academy conceal, or at least don’t warn you about: The ivory tower is red not ivory or green, and the majority of those in it are broke.

I wish I would have been told that being a professor is very much a blue-collar occupation—not because I would not have aspired to become one, but because it would have softened the blow I received when I was hired. Although we are doctors, a Ph.D. does not hold the same social prestige as a medical doctor’s degree does. [Lucille: Many others echo Nicholas’ call for ‘truth in advertising’ and ‘full disclosure’ from university admissions and financial aid counselors (Patton, 2012b; Kamenetz, 2007) as well as for frank career advisement from Ph.D. candidates’ doctoral advisors (Kelsey, 2011). In our view, we in the academy must become critically-informed on the ‘brave new world’ that all who labor must either face courageously and transform collectively or succumb to the divide-and-rule (Freire, 2000) machinations of its Megamachine (Bahro, 1994).]

I Am Not Complaining

I do not wish to sound like I am carping. The fact that my wife worked while I studied as a doctoral student is the primary reason that I can write this article today, in my office at a public university, as a tenure-track professor. Research suggests that married men with children have an advantage when it comes to completing their doctorate and securing tenure once employed on the tenure-track (e.g., see Ginther & Kahn, 2006; Rudd, Morrison, Sadrozinski, Nerad, & Cerny, 2008).

[Lucille: What I want to add as we transition to my voice in the next section is that Nicholas and at least 60% of all undergraduate and graduate students today borrowed money for school, total student debt nearly tripled in the last three years and is nearing if not beyond \$1 trillion—its highest level ever—according to the Federal Reserve Bank of New York and the U.S. Consumer Financial Protection Bureau, and its escalation shows little sign of abating. Up-and-coming young people are caught between a rock and a hard place. To make a decent living within our existing political economy, one needs advanced degrees more than ever before. Yet the cost of obtaining one, not to mention more than one, is, like everything else in our interest-and-debt-driven economy, increasing exponentially. With no savings of

their own, shrinking or nonexistent parental nest-eggs to tap, and diminishing grants and scholarship money to draw on, tomorrow's students have little choice (although see Kamenetz, 2010) but to ransom their future labor power for an education (or at least a credential; see Hacker & Dreifus, 2010; Gatto, 2010) today. Unlike the housing bubble of 2008, the student debt bubble will also be harder to pop both because much of it is government backed—which, at least until July 2010,² derisively emboldened lenders and even universities to seek out borrowers—and because there is, currently at least, no legal escape valve for debtors from it other than (at least for federal loans) death. By law student loans cannot be discharged in bankruptcy except in rare circumstances, and the federal government can garnish up to 15% of a borrower's wages, Social Security disability, and Social Security retirement income to secure repayment (Kamenetz, 2007). In the next section we detail the calculus of student indebtedness with real situations, Nicholas' included, predicated as they are on the 300-year-old, irrational, dehumanizing, and rapacious monetary exchange relations to which we in the U.S. have been “democratically” consenting at least since the Federal Reserve System (the FED) was founded 100 years ago.]

Financial Reflections on University Study

Math can illustrate the absurdity of interest-bearing debt, especially in situations where an individual may take on so much educational debt in order to have a job that does not pay enough to pay back the loans that were taken out to achieve that position. Calculating interest payments exposes what debt in our political economy does to a debtor's life and, viewed collectively, to human sanity and survival. To calculate interest payments, we need to use an amortization formula.

Based on the old French word to extinguish and, before that, on the Latin word for death, *amortization* means spreading payments over multiple periods until a loan is extinguished. An amortization formula calculates the Amount of each installment (A) given the Principal (P), interest rate per period (r), and total number of periods (n) of the loan. If no interest is charged, each installment would simply be P/n (add the loan fee to P to show the full cost). Given interest, however, the formula is a bit more complicated:

$$A = P \cdot \frac{r(1+r)^n}{(1+r)^n - 1}$$

Using this formula and a calculator, any inquisitive secondary student could calculate how much a borrower will end up paying, total and in interest, for his/her school loan(s) given the interest rate(s) and time period(s) s/he takes to pay the debt off (one can avoid—or check—the math by using an online amortization calculator).

The first scenario below is based on a spring 2013 undergraduate student of mine, let's call her Rose, who transferred to ISU from out-of-state to study Agriculture Education and has taken \$60,000 in student loans. It lays out how much someone like her will end up having paid in 10 or 20 years for the use now of that \$60,000, assuming s/he successfully discharges her/his loans in that time after 4 years in school. It also shows how much the lender earns for his legal privilege—given our ‘modern’ system of fractional-reserve banking—to create the bulk of that principal literally out of thin air whenever a borrower pledges his/her future earnings in order to pay it back with interest. In the second scenario, Nicholas spells out the fiscal realities of his “higher education.”

Before I continue, I must offer a disclaimer: I am no mathematician and no expert in student loan options and terms, which themselves are moving targets. Everything I know about them I learned while researching for this article, and there are undoubtedly oversights and simplifications, if not outright errors,

² Under the Federal Family Education Loan (FFEL) Program, which was legislatively discontinued in July 2010, “private lenders provided loans to students that were guaranteed by the federal government. These loans included Subsidized Federal Stafford Loans, Unsubsidized Federal Stafford Loans, FFEL PLUS Loans, and FFEL Consolidation Loans. Federal student loans under the FFEL Program are no longer made by private lenders. Instead, all new federal student loans come directly from the U.S. Department of Education under the Direct Loan Program.” <https://studentaid.ed.gov/>

in what follows. I would posit, however, that this could encourage rather than put off any math-wary reader. If *I* can figure this out, so can you! And we must, for we have let the wool be pulled over our eyes for far too long now. No longer may the study of political economy be excluded from public education, as it explicitly was in 1892 by professor Woodrow Wilson—the same person who would later, as US President, sign the Federal Reserve Act into law one hour after Congress passed it—and other members of the history, civil government, and political economy subcommittee of the Committee of Ten, which was the first group to try to coordinate US secondary school curriculum nationally (Krug, 1969, pp. 53-54). If we do not start using our eyes to see and our ears to hear what’s what in our global village, we will not know to call a spade a spade, and the very stones will cry out.

*Undergraduate Scenario*³

If possible, undergraduates should limit their borrowing to \$23,000, the maximum amount now borrowable in Direct Subsidized Loans (DSLs), which offer the most favorable terms and rates (3.4% in 2011-2013)⁴ of any loan available. “Direct” means the loan comes directly from the federal government (specifically, the Department of Education [DoE]), and “Subsidized” means the DoE pays the interest as long as the debtor is in school at least half time.⁵ DSLs are available to undergraduates with “financial need” (defined as the difference between the Cost of Attendance [CoA] at a school and the student’s Expected Family Contribution) who attend college at least half-time. My student Rose qualified for DSLs and borrowed the maximum amount possible each year, which, currently, is \$3,500 in year 1, \$4,500 in year 2, and \$5,500 in each subsequent year up to the \$23,000 maximum. Thus, for four years Rose has \$19,000 in DSLs (minus \$190 for the 1% loan fee⁶ that is deducted from disbursements). Using a calculator and the amortization formula, the following steps enable us to calculate how much she will pay for this \$19,000 at 3.4% interest if she pays off the loan in 10 or 20 years (120 or 240 months):

1. Enter the interest rate (as decimal) and divide by 12 for the *rate per period* (r).
2. Add 1.
3. Enter y^x (find it among the statistical symbols at the top of the calculator).
4. Enter the number of periods (n) or months over which the loan will be paid.
5. Enter = and record the result.
6. Multiply the result by r (answer to step 1) and enter =. This is the numerator.
7. Subtract 1 from the result of step 5. This is the denominator.
8. Divide numerator by denominator.
9. Multiply the answer to step 8 by the amount borrowed (P) and enter =. This is the amount per month given that r and n .
10. Multiply the answer to step 9 by n (or by 12 and then by the number of years) and enter =. This is what the loan will cost by time it is extinguished.
11. Subtract P from the answer to step 10. This is the ‘interest.’

Give or take a few pennies or dollars for rounding off variances, if Rose takes 10 years after graduation to extinguish her \$19,000 in DSLs, she will pay \$186.77 per month for a total of \$22,412.40—\$3,412.40 (15%) of it in interest. If she takes 20 years, she can reduce her monthly payment to \$109.22 but she will increase her total payment to \$26,212.80—\$7,212.80 (28%) of it in interest. Assuming she secures a

³ All information on federal loans, also known as Stafford loans, comes from <http://studentaid.ed.gov/>

⁴ Under prior law, DSLs issued after July 1, 2013, were scheduled to return to their 2006-2008 fixed rate of 6.8%. However, under considerable public pressure, the U.S. Congress passed the “Keep Student Loans Affordable Act of 2013” as this article went to press, and the rate only went up to 3.86%. What it will be after June 30, 2014, is anyone’s guess.

⁵ Until July 2012 it also meant the government paid the interest during the six month grace period before the first payment is due, but no more.

⁶ This fee increased to 1.051% on 3/1/13 due to the “sequester.”

decent job as a college graduate, either amount of interest may not seem like too high a price to pay for the increased earning power that her degree fetches, even if it seems questionable for a lender to earn by virtue of her effort to educate herself.

However, being of modest means, Rose needs to borrow much more in order to pay the tuition, room, board, fees, books, and other expenses of college so she is free to invest her time and effort in educating herself and earning that degree. Her next best option (and graduate students’ only federal option since, as of July 2012, Subsidized Loans are no longer available to them) is, apparently, DoE Direct Unsubsidized Loans. “Unsubsidized” means the borrower is charged interest (simple daily) from the time the loan is disbursed until the loan is repaid. If the borrower cannot pay at least the interest while in school, it is simply added to the principal at the time repayment starts. Direct Unsubsidized Loans (DULs) also carry a higher interest rate—6.8%—than DSLs do.⁷

Rose has borrowed the maximum amount of DULs an undergraduate can per year—\$6,000 the first two years and \$7,000 the next two years, for a total of \$26,000. Since interest accrues from the moment of disbursement, we must follow the above steps (or use an online amortization calculator) to calculate each year’s loan payment amount, per period and total, and then add the totals together in order to obtain how much Rose will end up paying, total and in interest, for her \$26,000 in DULs. Tables 2 and 3 provide the results for 10-year or 20-year repayment durations following her school completion.

Table 2. *Ten-year Loan Repayment Schedule and Totals for 4 Years of Direct Unsubsidized Loans*

Year in school	DUL amount	Loan repayment period	Monthly installment	Total amount paid
Freshman	\$6,000	14 years (168 months)	\$55.47	\$9,318.46
Sophomore	\$6,000	13 years (156 months)	\$58.04 + preceding	\$9,053.95
Junior	\$7,000	12 years (144 months)	\$71.25 + preceding	\$10,259.31
Senior	\$7,000	11 years (132 months)	\$75.46 + preceding	\$9,960.52
Totals	\$26,000		\$260.22	\$38,592.24 (\$12,592.24 of it in interest)

Table 3. *Twenty-year Loan Repayment Schedule and Totals for 4 Years of Direct Unsubsidized Loans*

Year in school	DUL amount	Loan repayment period	Monthly installment	Total amount paid
Freshman	\$6,000	24 years (288 months)	\$1,447.31	\$12,185.94
Sophomore	\$6,000	23 years (276 months)	\$43.05 + preceding	\$11,881.85
Junior	\$7,000	22 years (264 months)	\$51.18 + preceding	\$13,511.93
Senior	\$7,000	21 years (252 months)	\$52.25 + preceding	\$13,165.82
Totals	\$26,000		\$188.79	\$50,745.54 (\$24,745.54 of it in interest)

⁷ The “Keep Student Loans Affordable Act of 2013,” which passed as this article went to press, brought the interest rate for DULs down to 5.41%.

Thus, if she pays on her loan(s) during college and takes 10 years after graduation to extinguish her \$26,000 in DULs, she will pay about \$260 per month for a total of \$38,592—\$12,592 (33%) of it in interest. If she takes 20 years, she can reduce her monthly payment to \$188, but she will increase her total payment to \$50,745—\$24,745 (49%) of it in interest. Incredulous! Why is it that she has to work twice as hard twice as long simply to pay the interest that money, in our system, bears?

Before I can answer that, there is one more component to Rose’s financial package, besides any grant or scholarship money she may have. \$45,000 in DSLs and DULs is a lot of money, but Rose needs \$15,000 more in order to make ends meet, including, for example, to participate in a four-day urban immersion experience to explore the social foundations of education in Chicago’s schools and neighborhoods—a vital part of ISU’s commitments both to urban teacher preparation and to provide small-college opportunities amid large-university resources. While the field trip is subsidized by ISU’s Chicago Teacher Education Pipeline program, participants must also contribute \$125. Just as Nicholas’ study and student-teach abroad programs were a worthwhile but costly investment in his own education, Rose too knows the cost yet priceless value of such learning experiences. Why should such opportunities only be afforded by those who come from wealth? In any case, instead of getting the last kind of Direct Loan the DoE offers (the Direct PLUS, which had 7.9% interest and since July 1, 2013, has 6.41% interest, a 4.204% fee, and to parents of dependent undergraduate students), Rose found a seemingly better option from her home state. CHESLA, the Connecticut Higher Education Supplemental Loan Authority, is a quasi-public state authority created to help students and their families afford the cost of a college or university education. Rose took two \$7,500 CHESLA loans at 5.99% interest (with a 3% fee withdrawn from disbursements). Using the amortization formula once more, Tables 4 and 5 show what this will amount to in the long run.

Table 4. *Ten-year Loan Repayment Schedule and Totals for 2 Years of CHESLA Loans*

Year in school	Loan amount	Loan repayment period	Monthly installment	Total amount paid
Junior	\$7,500	12 years (144 months)	\$73.13	\$10,530.11
Senior	\$7,500	11 years (132 months)	\$72.20 + preceding	\$9,529.84
Totals	\$15,000		\$145.33	\$20,059.95 (\$5,059.95 of it in interest)

Table 5. *Twenty-year Loan Repayment Schedule and Totals for 2 Years of CHESLA Loans*

Year in school	Loan amount	Loan repayment period	Monthly installment	Total amount paid
Junior	\$7,500	22 years (264 months)	\$51.19	\$13,514.18
Senior	\$7,500	21 years (252 months)	\$52.37 + preceding	\$13,197.36
Totals	\$15,000		\$103.56	\$26,711.54 (\$11,711.54 of it in interest)

So, let’s sum up. Rose borrowed \$60,000 as an undergraduate. If she starts paying off her DULs and CHESLA loans immediately (or at least the interest) and takes 10 years after leaving school to extinguish all her loans, Rose will have monthly payments during the last ten years of about \$592 (higher if she only paid the interest while in school), and she will pay a total of \$81,065, with \$21,065 (26%) of it paying for others’ interest in her schooling. If she instead takes 20 years, she will lessen her monthly payments to

\$402 (higher if she paid only interest during school) but increase her total owed to \$103,670, with \$43,670 (42%) of it going to the lucky lenders to account for their “interest.” Both amounts may be higher if she paid no interest while in school.

So what is this thing we call “interest”? Conventional and neoclassical economics notwithstanding, interest is the money that a bank or any other legally-sanctioned modern lender has the legalized privilege of receiving based on a debtor making good on her legally-binding promise to invest her effort to reproduce her own survival plus enough surplus value to pay for the lender’s superfluous interest in her surviving long enough to do so. Attached to student loans, interest is lenders’ legalized privilege of receiving money simply by virtue of students’ efforts to earn a degree (and become educated) and then make a living for themselves and their loved ones plus enough surplus value to pay for the lenders’ gratuitous interest in students’ surviving long enough to do so. Modern banks are unique in lending by virtue of what’s called ‘fractional reserve banking,’ which refers to banks’ legal but economically unnecessary and unsound, systemically biased, undemocratic, and arguably unconstitutional right to *create* money—literally ‘out of thin air’—by lending it into existence whenever borrowers they deem credit-worthy sign that they will, by hook or by crook, pay principal plus interest to them. Modern money’s private-interest-driven debt-based character is the fatal flaw in “modern money mechanics” (Gonczy, 1992) because it systematically requires our economies to grow exponentially simply to pay the interest that modern money bears. It is a condition that is commercially unnecessary, environmentally and humanly exploitive, economically and physically unsustainable, and, sooner or later, impossible. With hindsight we can recognize that this *causal condition* of capitalism is irrational and ethically irresponsible. Modern money (which is NOT to say all money) is as deadly to our ecosystem as cancer is in a living body (Bahro, 1994; Creutz, 2010; Daly, 2013; Eckrich, 1998; Kennedy, 1995, 2012; Suhr, 1989, 1990; Zarlenga, 2002).

Graduate Scenario: Nicholas Reflects on Roads, Taken and Not

A question worth asking is whether or not earning a Ph.D. pays off in financial terms. In other words, what are the costs and the rewards of earning a Ph.D. in order to become a professor compared to staying in the K-12 classroom with a master’s degree? Before doing my math, let me set the context. I graduated with my B.S. in Elementary Education in December of 2006. I graduated with my Ph.D. in 2012. At the start of this time (2005), according to a story published in *Forbes* (2012), the average student debt was \$17,233; by 2012 the average U.S. student loan debt climbed to \$27,253. That is a 63% increase in just seven years!

On December 15, 2006, graduation day, I walked across the stage at WSU’s commencement and was handed my baccalaureate degree. Along with this degree came \$38,928.58 in student loan debt (see Table 2). However, this was not my last graduation. On August 8, 2008, I again walked across the stage and was hooded, with my M.S.Ed. My hood cost me \$28,082.55 of additional debt burden. Finally, on May 12, 2012, I walked across the stage once more, this time in a different city and state (Milwaukee, WI), and was hooded yet again, this time with a terminal (pun intended I now think!) degree, my Ph.D. in Urban Education (Social Foundations of Education). Along with my doctoral regalia, which cost me nearly \$1,000 (an investment for my professoriate), I was sacked with an additional \$63,957.02 of debt.

Table 6. Degrees of Student Debt

Degree	Amount of Student Debt
B.S. in Elementary Teaching	\$38,928.58
M.S.Ed. K-12 Education	\$28,082.55
Ph.D. in Urban Education	\$63,957.02
Total:	\$130,968.15

Note: From Nicholas’ personal files

If I had stopped with just my bachelor's degree, I would have to pay back \$38,928.58. The amount of debt represented in obtaining my bachelor's degree could have actually been much higher than this. As an undergraduate I received numerous scholarships. Below are just a few to illustrate that while there are many alternatives to debt (grants, scholarships, and working), sometimes they do not make ends meet.

Undergraduate Scholarships Received by Nicholas

- \$1000: The Korean American Scholarship Foundation 2006 Midwest Regional Scholarship (Fall 2006)
- \$8,000: Nellie Stone Johnson Scholarship, MSUSA (\$2000 x 4, one each academic year, 2004-2008)
- \$400: 2005 Golden Key International Honour Society Undergraduate Scholarship, WSU (Spring 2005)
- \$500: Minnesota State College Student Association Leadership Scholarship, MSCSA (Fall 2005)
- \$500: Cultural Diversity Scholarship, WSU (Spring 2004)
- \$500: Cultural Empowerment Program Grant, WSU (Spring 2004)
- **Total Amount of Alternatives to Debt: \$10,900**

As an elementary school teacher, it would have taken me a significant period of time to pay off my nearly \$40,000 in undergraduate debt. Thus, as many in-service teachers do, earning a master's degree *prima facie* makes the most sense to increase one's lifetime earnings. But, again, it wasn't as if I wanted to amass immense amounts of debt, so I applied and received numerous scholarships/grants.

Master's Scholarships Received by Nicholas

- \$1,000: Merit Scholarship, Alpha Kappa Alpha Educational Advancement Foundation, Inc. (Fall 2007)
- \$11,000: Stipend + Full Tuition Remission, Graduate School Fellowship, Graduate Induction Program, WSU (Fall 2007)
- **Total Amount of Alternatives to Debt: \$12,000 plus tuition waiver**

As a teacher with a master's degree, I would now have to pay back \$67,011.13 in principal accrued by earning my bachelor's and master's degrees. This would take me quite some time to pay off. The aura and possibility of earning my Ph.D. in order to become a professor, and perhaps later in my career a higher education administrator or university president, appealed to me in professional and economic terms. However, en route to earning my Ph.D., I sunk further into debt—\$63,957.02 further to be exact. Again, I did my best not to sink deeper, but it felt as though debt was “piled higher and deeper” (Logue, 2012) than it was before. [Lucille: Little did Nicholas know that future doctoral candidates in need would have it even harder given no more Subsidized Loans.]

Doctoral Scholarships Received by Nicholas

- \$100: REAPA SIG Travel Grant for 2012 American Educational Research Association (AERA) Annual Conference (Spring/Summer2012)
- \$300: University of Wisconsin-Milwaukee (UWM) Graduate Student Travel Award (Fall 2011)
- \$400: Funding on behalf of the UWM School of Education (SoE), Office of the Dean of Education (Fall 2011)
- \$400: UWM Graduate Student Travel Award (Spring 2011)
- \$100: Asian Faculty and Staff Association (AFSA) Award, UWM (Spring 2011)
- \$1,400: Funding on behalf of the UWM SoE, Office of the Dean of Education (Spring 2011)
- \$600: Honorarium, AERA (Spring 2011)
- \$250: Honorarium, Congressional Black Caucus Foundation, Howard University School of Education, Open Campaign for Black Male Achievement (Spring 2011)
- \$500: UWM Graduate Student Travel Award (Fall 2010)
- \$300: Honorarium for presentation at Facing History and Ourselves “Eugenics” Seminar (July

- 2010)
- \$2,000: Organization of Chinese Americans (OCA-WI)—Richard Peter & Janet Lew Carr Social Justice Scholarship (Spring/Summer 2010)
- \$200: UWM Golden Key Scholarship Award (one of only two, Spring 2010)
- \$1,000: Funding on behalf of the UWM SoE, Office of the Dean of Education (Spring 2010)
- \$500: AERA, Division K Travel Stipend (Spring 2010)
- \$450: UWM Graduate Student Travel Award (Fall 2009)
- \$400: UWM Graduate Student Travel Award (Spring 2009)
- \$200: AERA, Division K Graduate Student Minority Travel Stipend Award (Spring 2009)
- \$32,000 x 3: 2009-2010, 2010-2011, & 2011-2012 Advanced Opportunity Program (AOP) Fellowship
- **Total Amount of Alternatives to Debt: \$105,100**

As readers of this *Workplace* article can clearly see, higher education is costly, and the higher you go, the more likely you will accrue student debt. I obtained \$128,000 of alternatives to debt that supported my B.S., M.S.Ed., and Ph.D. (average \$16,000 per year), yet, I still managed to rack up \$130,968.15 (average \$16,370 per year) in student debt, just under the federal limit. [And that is only the principal. Following the amortization calculation steps laid out above and assuming, for simplicity sake, an average interest rate of 5.9% and 100% Subsidized Loans, Nicholas will have to pay \$1,447.86 per month over 10 years and a total of \$173,694.79 for his “higher education,” \$42,726.64 of it for his lenders’ interests. The real number, he knows, is higher because 3/4 of his loans were Unsubsidized and, thus, accrued unpaid interest that was added to his principal.] But there is no way I can pay even \$1,448 a month, and I’m one of the lucky Ph.Ds. who landed a job right away. As I write this article, many of my accounts are negligent (i.e., past due), although I also just made a payment of \$640.40. But that is still lower than the \$930.76 payment I must make every month if I hope to discharge my school debt by time my first-born is 25.

In short, the end is nowhere in sight, and many nights I lay awake and ask myself if I made the correct decision to earn my Ph.D. In many ways I feel like I did not earn anything, but rather, that I funded or am paying backwards for my degrees through debt peonage. [Indeed, while Nicholas and his wife—who went back to work 6 months after Nicholas came to ISU and 3 months after their third daughter was born—will likely struggle to make a living and pay off his student debt in 20 years, if they succeed, his creditors will walk away scot-free with \$92,414.55 from his efforts, themselves having done nothing but conjure up the principal through their legal privilege to do so. We might ask, in this democracy of ours, who legalized such privilege and how. More importantly, who are we, if not utterly “submerged” in our own oppression (Freire, 2000, pp. 51, 81, 85), if we consent to it any longer?]

Conclusions and Recommendations

What can and should we—up-and-coming, early-, mid-, late-, and post-career faculty members who are in the red and/or seeing red—do about this state of affairs in our global village? We suggest a trinity of responses.

First, recognize we are *all* in this together. “We are the 99%” is the Occupy Movement’s valiant and valid call for solidarity within and across constituencies. We cannot let our own short-sighted self-interests and others’ divide-and-rule tactics separate us from one another and from recognizing our shared humanity and our collective indebtedness to the rest of nature for our survival and flourishing. We need to expand our historically- and culturally-delimited brackets and release ourselves from myopic mental models that tie us fearfully or mindlessly to the status quo, which serves the interests of the 1% at the expense of the rest of us, all the while dehumanizing both them and us in the process (Freire, 2000, pp. 44-45, 48). We

must live within our means and help each other to do so, especially during the coming difficult yet emergent time of transition. Many are already doing so from whom we can and should learn.⁸

Second, let's educate ourselves and our students, colleagues, friends (virtual and F2F), neighbors, and relatives about the history and nature of money and how to supersede our way into a postmodern epoch worth living in and bequeathing. For workers who profess education as Jackson (2012) does, our very livelihood depends on our critical economic literacy because, as the stories of Rose and Nicholas suggest and the Chomsky epigraph signals, monetary reform is necessary in order for all to be able to engage in education and for every society to achieve the conditions of the possibility of public education. Let's animate ourselves and others to examine critically the roles indebtedness plays in the lives of not only everyone who borrows money but also everyone who buys goods or services from those who do, who factor their interest payments into their prices as a cost of doing business within the capitalist regime. Let's study money matters with our students until we and they understand what is, what need not and should not be, and how it can be otherwise. Like those in Tunisia late in 2010, we do not know when our hour will come, but given the limits of a finite planet and the limitlessness of modern money's exponential growth imperative, we know it will come. Let us learn enough to be ready to act—collectively, democratically, nonviolently, transformatively—when it does.⁹

In particular for us as university workers, we must note that the dependency of institutions of so-called higher learning on students' willingness to take on—currently irrevocable—debt is massive and growing, including at public universities like ISU where state support is now less than 18% of our budget. No matter how strong or needy our students are, the ethics of earning our livings off the ransomed future labor power of those we teach should give us pause. How and why do we continue to accept such distorted relations of production and exchange? Let's instead carry the amortization and compound interest formulae in our wallets to put to good use in examples relevant to all we meet. As Hirschman (1977) revealed with respect to *interest* and Eckrich (1998) with respect to *value*, the words of commerce are philosophically, historically, and empirically rich, complex, and diverse in meaning, and deserving of our deep and creative pondering.

Finally, act. We cannot wait until the private-interest-driven debt-based logic inherent in capitalist relations of production and exchange plays itself out. For there are many different funnels through which the future of human history can come to be; monetary transformation is only one possible way forward—albeit in our view the sole humanizing and ecological route. So act now, in small and big ways. As long as our actions are informed by our critical economic literacy and growing understanding of the need for and feasibility of balanced, non-usurious exchange relations between and among living things, including humans, our actions will become part of the solution rather than deepen the problem. Act locally, provincially, nationally, globally, and ecologically. Action at any level—micro (individual), meso (organizational), macro (societal), and mundo (ecological) (Scharmer, 2009)—can and should care about both reverberations on and resources at each of the other levels. Finally, as we act, let us employ the deeply human and nonviolent technologies of dialogue (Bohm, 2004), systems-thinking (Senge et al., 2012; Hargreaves & Fullan, 2012), meditation (Chödrön, 2001), Theory U (Scharmer, 2009), open-space meeting,¹⁰ discipline, and love. Such modes will help to keep us honest, open, listening, and learning—laughing at our folly, too, of course, but always learning. It is in these humane means—rather than in weapons of mass instruction and destruction—that human security originates and well-being flourishes.

The trinity of solidarity, education, and action on behalf of achieving balanced, non-usurious, humanizing, and sustainable relations of production and exchange through money that acts like blood in the body *is* the way forward, the only ecological way forward. It will not drop, however, like manna from heaven.

⁸ E.g., see <http://www.transitionnetwork.org/>; <http://www.peakprosperity.com/crashcourse/>; <http://www.permaculture.org/>; <http://www.neweconomics.org/>; <http://www.monnetta.org/>; <http://www.presencing.com/>; <http://neweconomicsinstitute.org/>; <http://www.monetary.org/>

⁹ Start with Kennedy (2012), Rogers (2004), and online “Money as Debt” and “Secrets of Oz” films.

¹⁰ See <http://www.openspaceworld.org/>; <http://www.theworldcafe.com/>

Instead, as Paulo Freire reminds us in some of the last words he penned, “The future does not make us. We make ourselves in the struggle to make it” (2004, p. 34).

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