DAVID CHARLES MCCARTY

OCTOBER 20, 1953 – NOVEMBER 25, 2020

A Memory Book

David Charles McCarty was born in Chicago, Illinois to Charles Albert and Mary Loretta McCarty. He received his B.S. and M.S. in Mathematics from Iowa State University, an M.A. in Philosophy from the University of Minnesota, and the DPhil from Oxford University in 1984, where he studied with Dana Scott. He began his career as an Assistant Professor at Ohio State in 1983, was a Joint University Lecturer at Edinburgh University from 1984 to 1987, an Assistant Professor at Florida State from 1987 to 1990. He joined Indiana University in 1991. He was promoted to Associate Professor in 1995, and Full Professor in 2003. He directed the IU Logic Program from 1996 to 2002 and the Cognitive Science Logic Certificate Program from 1996 to 2008. He was a member of the Cognitive Science program and adjunct professor in Computer Science and in History and Philosophy of Science. He held visiting appointments at Konstanz as a DAAD Research Fellow and a Senior Research Fellow at the Sidney M. Edelstein Center for the History and Philosophy of Science, Technology, and Medicine at the Hebrew University of Jerusalem. He was a Fellow at the Copernicus Center in Cracow, and President of the Indiana Philosophical Association 2012-13.

Professor McCarty's primary fields of research were foundations of logic and mathematics, early analytic philosophy, and the history of mathematics and logic in the late 19th and early 20th centuries. He published over 120 peer-reviewed papers. He wrote on intuitionism, the completeness problem for intuitionistic logic, Markov's Principle, constructive validity, realizability and recursive mathematics, potentially infinite sets, denotational semantics, Church's Thesis, logical truth, the meanings of the connectives, limits of mathematical explanation, mathematical realism, structuralism, antirealism, the philosophy of logical atomism, as well as Hilbert and du Bois-Reymond, Carnap, Brouwer, Helmholtz, Frege, Wittgenstein, Dedekind, Gödel, Anselm's ontological argument, Goethe, historical fiction, the pathetic fallacy, and other topics. His book *To an Infinite Power: Mathematical and Philosophical Writings of Paul du Bois-Reymond* was published posthumously by Oxford University Press in 2021.

McCarty was a legendary teacher. He had exacting standards and expected a lot of his students, but he was extraordinarily clear, and an inspirational teacher and entertaining lecturer, known for being very supportive of students and generous with his time. He had a wide range: from mathematical logic, intuitionistic logic, computability, category theory, set theory, and the foundations and philosophy of mathematics to cognitive science, philosophy of language, the later Heidegger, Existentialism and Phenomenology, 19th century German philosophy, ancient philosophy, metaethics, political philosophy, aesthetics, and film and philosophy, among others. Professor McCarty was also notably successful as a dissertation supervisor, providing both encouragement and rigorous feedback, and seeing many students across the finish line. He was exceptionally proud of the accomplishments of his PhD students.

Shannon Abelson

I had an extremely rough emotional time my first semester at IU. Logan once told me he was floored by that because I seemed put together—nope. I was profoundly depressed and worried that I wasn't cut out for graduate work because the logic class was difficult. It sounds dumb in retrospect, but at the time I tied my perceived ineptitude at mathematical logic to my worth as a scholar. After a midnight panic attack, the next day I ended up going to Professor McCarty's office hours and he very patiently helped me with my work. I didn't tell him anything was wrong, just that I was confused. On my way out, he said, verbatim: "How are you doing here? Are you adjusting well? It's very important to me that you are doing well."

In all my life I can hardly remember being so immediately reassured and comforted by a virtual stranger to me at the time, just caring that I was ok. Who knows how things would've shook out in my life had certain things been different, but it's not a stretch to say that those remarks went a long way to reassuring me that I belonged here.

I've reflected on those comments often over the years. I ended up going to his office hours twice a week for that entire semester. He helped me with homework every time, constantly reassured me that I was perfectly capable at logic and doing fine.

This loss is devastating for the department. I will always remember him warmly and fondly. He was truly a uniquely kind and supportive mentor to me. I will miss him terribly.

Sarah Adams

Professor McCarty was one of those teachers who completely reshapes his students into true learners. I have had the good fortune to have a number of excellent teachers over the years, but Professor McCarty was one of the absolute best. He taught me to seek knowledge about all the things I was interested in, and not to worry about whether I was an expert in the topic. His joy for learning was so inspiring. More than that, Professor McCarty encouraged his students and motivated them to do their best work. I always loved seeing him work with his IFS students; they came away from the class so motivated to learn about everything! We definitely argued about all kinds of topics in philosophy and writing, and he always motivated me to think more critically and to edit my work more thoughtfully. We disagreed all the time, but he always made me feel like he respected and cared for me as a person, regardless of what we argued about. He is a huge part of the reason I stayed and finished graduate school. Even when he knew I didn't want to be a professional philosopher, he cared about helping me be successful and made me feel valued. I may not write with as strict an adherence to Strunk & White as he would like, but he made me a better teacher, learner, thinker, and person. I know he will be truly missed, and his legacy will be carried on by the thousands of students who had the opportunity to learn from him.

Joshua Alexander

Professor McCarty challenged me more than any other professor. He was tough as nails but cared so much about our academic success. He would host these amazing weekly work groups with his logic students, which always ran into the night, and then we'd go out afterwards for drinks at Bears Place, where we'd talk about logic and the profession, but also about music, which he loved almost as much as he loved logic and teaching. He invited us to participate fully in academic life from day one, but also demanded that we live up to what that invitation meant and that we take seriously what academic life was all about. There's a close possible world in which I continued working on logic rather than pivoting to epistemology and experimental philosophy, and in that possible world I'd like to think we are still sitting in Bears working through proofs together.

Zara Anwarzai

Professor McCarty was well-liked by grad students. I especially was very fond of him. In my first semester, I would go to his office each week for help in his logic seminar, where he was patient and encouraging as I struggled with the material. We would eventually transition from logic and have long discussions about academia, our shared experiences as former musicians, traveling, and more. He was incredibly generous with his time. I once mentioned in passing that I was busy writing something unrelated to his class, and he volunteered to read it and give me comments. He played an important role in my adjustment to graduate school, and he gave me valuable advice that I continue to use to navigate life in academia.

Alexander Buchinski

My favorite memories of Professor McCarty were my initial encounters with him. My first acquaintance with Professor McCarty was over email. He was the chair of the Graduate admissions committee that year, and he immediately conveyed a deep feeling of welcome to me and genuine concern with my situation. I had been placed on the waitlist, and eventually did gain admission to the IU Bloomington Philosophy Department. However, I had missed attending Welcome Week, but still wanted to visit IU Bloomington campus in May of 2016. Professor McCarty organized a dinner at Nick's English Hut to welcome me and my wife, and the next morning he took my wife and I on a campus wide private tour led by him. He provided the most engaging and detail-rich tour I have ever had of anything in my entire life. That memory captures for me Professor McCarty's unmistakable character traits of warm-hearted inclusiveness, genuine and heartfelt concern for his students, and the passionate intensity of a brilliant mind.

I would also be remiss if I did not mention another story. I told Professor McCarty that I was travelling to Munich in the Summer of 2018. He gave me an awesome restaurant recommendation. Professor McCarty said to eat at a place called Atzinger. He said that he recommended it whole-heartedly because he had so much fun there one night that the owners had to physically remove him from the premises when it closed because he did not want to leave.

Ned Burke

He was a great inspiration to me as an instructor when I went through my own graduate program after attending IU as an undergraduate in the mid 2000s.

My memories of him center around the Classics in Philosophy of Art class I took with him. In particular I remember the "is beauty subjective or objective" debate he orchestrated, which was lively because he constantly pressed us to test our ideas and butt them up against arguments in the texts we studied. He had great energy stemming from deep care. Nothing was more important to him than to inspire in us the hard work of thinking and to make sure we grasped the material so we could build our own arguments upon a solid foundation. Invaluable was the lesson in critical thinking—his class was pretty much a master's course in the practice of it and provided a blueprint for many other studies I've undertaken.

Furthermore my experience with him inspired me to teach an Inquiry into Beauty course in qualitative research while I was a graduate student, several years later. I even selected some of the texts Professor McCarty used in his own class, to help my students develop working definitions of beauty for their assignments. Sometimes I contacted him to ask his advice about a component of the course, and it always pleased me to witness his unwavering passion in teaching. He will be very missed.

Matthew Carlson

I hardly know where to begin in talking about David McCarty. Perhaps that very sentence is a good place to start. It's poorly composed, and had I written it in a paper for him, he surely would have critiqued it mercilessly. I, like many other IU grad students, found Professor McCarty to be very intimidating. Case in point: Despite the fact that I am now a tenured professor in my own right, I still find it strange to refer to him as anything other than "Professor McCarty". He had extremely high standards for rigor and clarity and was not shy about letting us know when we failed to meet them. But he also commanded such respect that his high standards became a motivating challenge. My work became much clearer, more rigorous, and logically tighter because I knew he would be reading it. I am a much better philosopher than I would have been without his help.

But I think my fondest memories of David McCarty have to do with the fact that his formal demeanor concealed deep compassion and warmth of humanity. For example,

early in my time at IU, I was out at dinner with him and the other members of a philosophy of mathematics reading group that he orchestrated. During dinner, I got a text from my wife, who was pregnant at the time, saying that she felt very ill and needed to go to the hospital. I left immediately, only giving a vague indication as to why. Within an hour of my arrival at the hospital, David was there, with Cathy, asking if there was anything he could do to support us. He had correctly inferred from my sudden departure that we would probably be in the maternity ward. Everything was fine, fortunately, but the genuine concern that he showed in that moment really stuck with me.

David McCarty was, and I suppose always will be, a bit of an enigma to me. I found him by turns intimidating and compassionate, a lover of mathematical rigor and musical beauty alike, a mentor and a friend. I will miss him terribly.

Tony Chemero

The first class I went to at Indiana University was David McCarty's Symbolic Logic, for which I was the teaching assistant. I had done a lot of logic as an undergrad, so I was feeling very prepared, a little cocky even, as the undergrads took their seats. Before introducing himself or even saying the name of the course, David recited, from memory, the fourth soliloquy from Hamlet. After speaking the final line, David went right into the introducing the nuts and bolts of the course, while we all sat staring, open-mouthed. It didn't take long for me, as a PhD student, to feel less intimidated by David. He was generous with his time, knowledgeable about most everything, and full of corny jokes. I'm not sure the undergrads ever got over it.

During my time as a PhD student at IU, David helped me countless times, in large and small ways. I took his courses and went to his office hours for help. He is on a short list of the best teachers I have ever had. On one memorable visit to his office for help in Graduate Logic 2, he told me "I can Löwenheim–Skolem all day, but am terrible at Turing machines," which he then explained so clearly and carefully that even I understood. He was the only faculty member to participate in the Heidegger reading group we grad students organized, which meant he voluntarily taught a multi-year course, usually on weekends. As the director of the graduate program, he helped me immeasurably when I was on the job market. I could go on. I owe a lot to David McCarty. I know that many of my grad student colleagues from back then would say the same thing. I am sorry that future students will not be so lucky.

Landon Elkin

In 2017 I first met David at the conference that Gregory Landini and I co-organized at the University of Iowa. The conference was on logical atomism, and David contributed a co-authored paper, now published in a volume collecting the proceedings. David's joint paper leveraged his mathematical background to give a philosophically interesting and worthwhile critique, arguably even a refutation, of that version of logical atomism.

David argued that the process of analyzing logically proper names as incapable of halting. This paper was typical of his special and mathematically-oriented take on philosophical issues.

Besides that, his active and good-humored participation made him a most welcome presence. At this 2017 conference in Iowa, and at the 2019 Bertrand Russell Society meeting at the University of Massachusetts-Amherst, David really shone not just as an original and exact researcher, but as a discussant. With his dedication to helping others who, to paraphrase Wittgenstein, do not know their way about, David was a philosophical colleague in the truest sense.

Dave Fisher

I didn't know much about Professor McCarty when I came to Bloomington. He was this intuitionistic logician with a rather severe photo on the Philosophy Department website. Logic I thought I knew, but I only had a crude stereotype of what intuitionism is. Yet in spite of my preconceived notions, he treated me with respect, as a genuine scholar, from the very beginning. (My very first semester he had me doing problems with so-called restricted singletons—the subset of {Ø} that is empty if a statement A is not true and has Ø as a member if A is true.) Because I didn't know him I didn't know how lucky I had gotten, that I would get to work with an exemplary logician and teacher and who would become a great friend.

I have heard it said that you have arrived as a logician when there is a paradox named after you. Perhaps that is why he was tickled when he learned that the argument of his article, 'Structuralism and Isomorphism', had been called 'McCarty's Paradox'. (Personally, I hope the name sticks; I have no idea how to respond to that argument.) As befitting his personality, it was never just one thing: he was comfortable doing proof theory, set theory, and whatever it is ''philosophical'' logicians do. But it all stemmed from a comprehensive view grounded in a distinctive conception of mathematics.

As others will note, he wasn't just a logician, or mathematician, or philosopher. I couldn't hang with him on all the topics on which he possessed a deep knowledge. I fondly recall a disagreement we had about the implications of the Shannon-Nyquist theorem, which quickly pulled me out of my depth. I can't say how many times I found myself thinking "how does he know this stuff?," even if I should have known better. I already miss receiving his strong opinions on politics, music, and detective fiction.

I had the pleasure of assisting for many of Professor's introductory courses. He took great care in instructing those who assisted for his classes. He liked to admonish me, "let's not turn this into rocket science, David," or sometimes "a religion." I knew what he meant, even if I also knew how hard he worked on his lectures, writing them out long-hand on yellow note pads, as he did with all his talks. And those lectures were a thing to behold, the way he would stalk through the lecture hall, stopping periodically to glower over some poor student. His commanding presence and his command of the material gave you the sense that he had thought it all through—that is, until someone

asked a question revealing some unexpected nuance and then you could see his delight as he worked out the implications. Other times he would break the tension with some McCartyism. Like on the rare occasion he found it expedient to reason classically, he would pause and say, “don’t tell mother.” Or about some small, picky thing he liked to remark, only half-jokingly, “A thing of beauty is a joy forever.” I see his way in the classroom as reflecting his attitude generally: logic and mathematics (and probably all inquiry) is serious business, not to be half-assed; but it is still a human enterprise: there will always be new work to be done.

I cherished the meetings of his ever-evolving “logic group” over the years. Like his classes, our meetings were serious and lively, and never just one thing. It was not rare that I would come away with a new angle on a topic I thought I had fully understood. I have many fond and traumatic memories of trying to present some argument whose conclusion Professor was convinced was mistaken. In other meetings we would take turns reading aloud some historical text, pausing frequently to delve into some claim or proof or historical connection, as we did recently it was Paul du Bois-Reymond’s *General Function Theory*. Often by the end of a meeting, a web of pictures and symbols would have ended up on the green chalkboard: sketches of topologies, compressed proof trees, ad hoc principles and theorem statements, all written in that upper-case script of his. As we were leaving, someone would go to erase the board, and if he was pleased with what we had done we he would say, “leave it; let them see what we have been working on.”

The Professor McCarty I knew was a complex person: caring and exacting; affable and intense; steadfast and mercurial. He could be difficult to get along with. He was acutely allergic to bullshit, and to lazy and opportunistic thinking. (And to poor grammar and diction; I shudder to think how he would have marked this up.) But it was always clear what his expectations were, even if they were difficult to meet. More often, though, he was easy to get along with. I will never forget the warmth he brought to all the small things most of us take for granted. He wished you “bon appétite” before you ate and begged your pardon if he had to check his watch for some reason. If I attended his office hours (which was always a good idea) he never failed to formally introduce me to whomever was there, be it an undergrad, tenured professor, or personal friend of his. He always inquired about the health of my family and listed intently to whichever personal trouble I was blowing out of proportion. Amidst all his strong feelings, he was always thoughtful, funny, brilliant, and wise.

He was a true original. I will miss him dearly.

Michael Koss

I remember David McCarty above all else as a model academic in the old style. He was thoroughly expert in his fields of specialization, logic and the philosophy of mathematics. His wide-ranging philosophical interests extended at least to aesthetics, the history of philosophy (especially the Greeks and Germans), language, and politics as

well. Of course, many academic philosophers are interested in matters besides their own specialties, but Professor McCarty (never David to his students) brought a rare level of philosophical precision to his interests in all of these areas. In this respect, he always represented for me a return to an older way of studying philosophy that is increasingly rare in an age of hyper-specialization in the field. Our shared enthusiasm for this attitude towards philosophy is one reason, I think, why he and I hit it off when I took his logic course during my first semester as a graduate student.

Professor McCarty could be impatient, and I know that people sometimes found him difficult as a result. This quality in him, however, was largely because of the exacting standards to which he held the entire world. I still sometimes recall his grimace when I would tell him I was reading something that he didn't think was worth the time. Underneath a sometimes prickly exterior, however, he was extremely generous and supportive to his students. To take just two non-academic examples, he let me stay in his home for a couple of weeks during a summer when I was between apartments, and he regularly gave me odd jobs (e.g., helping with housework or teaching an undergraduate class when he had to miss meeting) for which he paid substantially more than the work called for.

Above all else, however, I remember Professor McCarty as an outstanding teacher. Since my own career had led me to teaching high-school math, I suppose it is inevitable that I would find this to have the greatest impact on me, but I think that anyone who took a McCarty course would agree with me that his influence as a teacher cannot be overstated. The rigor, depth, and intensity with which he taught anything, even the most introductory elements of sentential logic, were unmatched. Here, more than anywhere else, his high standards were on display, and his students were inevitably made better for having been exposed to that degree of passion for the subject matter and for good, thorough teaching. He once told me that, as a student of Dana Scott and therefore a student once removed of Alfred Tarski, he tried to emulate the latter's legendary instruction as best he could. So far as I am concerned, he succeeded admirably. I strive to model my own teaching on his as best I can. I hope for one of his lasting legacies to be that my own students develop an appreciation for the value of the McCarty style of teaching.

Nikole Langjahr

David attended the Germanic Studies "Stammtisch" (weekly conversation hour) that I host for many years. Only days before his sudden and unexpected passing, I remember thinking how I was looking forward to seeing him at our old locale, Bear's Place, next year, once in-person gatherings would be possible again. He would entertain me once more with his stories from experiences abroad, delight me with his wit, and help me make peace with world events through his common sense and logic.

Over the years, David often expressed his deep appreciation for Stammtisch and Germanic Studies through words, but even more so through action: he attended our

extracurricular events like movie showings and themed weekends, he gave wonderful lectures for our students on German expressionism and acted as MC for a musical event starring Professor Wolfgang Brendel (Jacobs School of Music). He had met Wolfgang through our weekly gatherings, and they had become best friends.

What I will miss most about David are his unfailing support and kindness that he showed me over so many years, both on a professional and a personal level. He encouraged me to be bold when I felt meek, and to take heart when I felt discouraged.

Kirk Ludwig

What I learned about David when I was the Director of Graduate Studies and subsequently the Chair of the Philosophy Department was that behind the formality of his interactions with others there was a deep concern and interest in the well-being of our graduate students and in their success. I learned this from students who told me about their experiences in his courses and in the logic group he ran. I learned about it also from his offers to me to help in any way in he could when there were crises or other difficulties students were going through, and his pitching in as needed to see students through program requirements in special circumstances, e.g., providing extracurricular tutoring over the summer to help a graduate student meet the logic requirement when she could not come to the campus to take the course. David never turned me down when I came to him for help. He was a very erudite man with extensive knowledge beyond his main research areas of logic and philosophy of mathematics, not just in philosophy but in literature and music. He read and spoke German, and read Latin and ancient Greek, and was a regular participant in interdisciplinary reading and discussion groups at IU. He came to the department at a time when it was an important center for logic. In the early 2000s, because of personnel changes, the department's major areas of strength moved away from logic. This was not an entirely welcome development for David and I believe he felt a bit out of tune with the department after that, though it had no effect on his dedication to service or the excellence of his teaching. David had a contrarian strain in his personality. I offer one illustration. The department Budget Committee voted to award David a two-year Mahlon Powell Professorship which included an increased research budget in part in recognition of his graduate teaching in logic, about which I had heard great things. When I told David, he turned it down on the grounds that he did not think that what he was trying to do in the logic courses had been appreciated. After having read all of the tributes from his students over the years, I think in this matter he was clearly mistaken. I wish he could read those tributes now.

Jeremy McCrary

I know many others will write well about David's role as an inspirational professor, but my favorite memories are all outside the classroom. The combination in David of an insatiable curiosity, a logician's rigor, and a historian's gift for storytelling meant that no

topic was off the table, and any topic in which he took an interest would be digested thoroughly into a readily relatable form.

These characteristics were always on display as he presided over the "Triple B" seminars at Bear's Place, and in two other specific situations that came to mind. The first was following a return trip from Cincinnati to Bloomington, during which my roommate and I noticed a tree growing from the top of a local courthouse. Trusting that nothing so unusual, so near to Bloomington, would have escaped his notice, I emailed David and within an hour had a quite detailed response regarding the famous Decatur Courthouse Tower Trees; colorfully told, but accurate and detailed in factual content.

Many years later, I was able to meet up with David and Cathy in Krakow during his summer teaching there, and he offered to show us around the city. Little did I know that we would be receiving a grand tour, crisscrossing the entire city, around the castle, and full of historical details, anecdotes and colorful stories. I've paid for guided tours in many places all over the world, and this was on par with the very best - just a reflection of the depth of David's interest and the joy he got from sharing those passions with other like-minded travelers. The photo I've attached is from that trip, taken in front of St. Mary's Basilica.

Charlie McIntyre

I was an MA student from 1999 to 2000 as a military academy instructor candidate. I knew David only a short time, but of course, he left an impression. Best memories outside of class always involved food, Scotch, and heated discussions, especially at Mama Bears. My favorite Prof McCarty story comes via Stu McKenzie, another student at the time. I believe Stu was a TA for David. One day a hapless undergrad tried to come into class at least 10 minutes late. When Prof McCarty denied entrance, said student looked at him incredulously and said, "You can't be serious." Not skipping a beat, and without a whit of sarcasm, David responded, "Yes, I am serious. I am a very serious man."

Sean Murphy

He made it clear to us, his students, that he loved us. For as formal and intimidating as he could come off, he truly was nothing but warm and encouraging to all of the graduate students he taught. I've so rarely heard any graduate students who actually got to know him say anything bad about him.

The other thing that struck me as so interesting about McCarty was his range of philosophical interests. I mean, who does complex philosophy of mathematics while loving the late Heidegger? Myself, Mike Lodato, and Alex Buchinski took his late Heidegger seminar, and the four of us would just sit on 022 and talk about the texts. They were some of the best discussions I had while a graduate student at IU. McCarty was giddy to be teaching that seminar. He'd address e-mails to us as, "Hey Guys," and

conclude with lots of exclamation points, as if we were some secret club of friends studying philosophy together.

Then, of course, there were his firm convictions, his opinionated nature, and the fact that he almost could not help being a contrarian.

He was also clearly someone who cared about history and literature, and I think this partly informed the humanistic approach he took to philosophy. I can't really flesh out why I think he is best characterized as a humanist, but it seems right. He certainly had his reservations about the narrowminded scope of so much contemporary philosophy, and lamented the fact that students seemed to be reading less, and not as in-touch with the history of philosophy, or Western history generally. I think having a sense of one's historical place in the world was important to him. People throw the word "deep" around a lot, but I do think he really was a deep thinker. He had depth, and that's part of what I think was so compelling about being around him. It is also what made it so that you were always still wondering, "Have I seen the real McCarty? Do I actually know what he thinks about X?"

There were also some memorable stories: He told us that he had spent time living in the Black Forest in Germany. He did forestry work, and said he'd often just wander around not too far away from Heidegger's hut. I think he was proud to have roots in the working-class, though just as proud to be able to talk Opera and Bach with you.

There were of course quite a lot of one-liners. Once he said to me something like, "There is no such thing as a culture; there are just individual people doing things." On another occasion, he was in an especially (though typically) ornery mood after a talk, and he quipped to me in the hallway: "Did you hear that talk? Put a negation sign in front of the whole thing." He then strolled calmly out of the building.

Michael Saxon

Professor David McCarty was many things to me: my dissertation chair, a professor and teacher, and a friend. I want to express here what he meant to me. As my dissertation chair, he chose to take on a student that was very non-traditional, with one foot in a military career and the other in academia. He didn’t have to do that, but he did, because he believed in me as a student and he believed in my development as a thinker. Frankly, some didn’t. As a professor and teacher, David was absolutely first-rate. He taught the most difficult course that I had ever taken throughout my academic career—philosophical foundations of mathematics—but he managed to somehow balance his demands that we perform at a high level with humor, kindness, and genuine support. When we showed weakness in class—not knowing something that we should have known—he would just dig in, never letting you off the hook until you said something of worth; yet he did this in a way that felt right, authentic, with an eye toward real development. I remember spending hours with him outside of class with many of the students, going over material, helping us to better understand. He genuinely enjoyed seeing his students learn and grow and was willing to invest in

that. He cared about them. Finally, as a friend, David was fun to be around, always balancing hard academic work with trips across the street for snacks and pitchers of beer. I miss those moments greatly. I'll end on one of those moments: returning to Bloomington to defend, I remember walking to Sycamore hall from my room downtown. Despite having experienced any number of stressful things over the course of my life, including service in combat, I felt like a man walking to the gallows. The sheer uncertainty of the event, how many obstacles I had to clear to reach it, and so many other dreadful things ran through my mind. When I arrived at Sycamore Hall, David put me at ease only slightly—this was a big day and it was going to be treated as such. The conversation with my committee ended up being wonderful. It was a real pleasure to spend a couple of hours talking with and being challenged by intelligent people on my project, and challenge they did! At the end, I was told to leave and then came back for the verdict: David smiled and let me know that I had defended successfully. He was genuinely thrilled on my behalf. I had the opportunity to share this moment with my wife, Jen, which made it even more special, and then we all retired across the street to eat, drink, and celebrate. One of David's friends, a professor in the music school, sang an Opera song to mark the moment. I will never forget that day and the many other great days with him that preceded it. Thanks David, for everything.

Stewart Shapiro

I met David when he was appointed to a tenure-track position at Ohio State, almost forty years ago. I was then an Assistant Professor at the Newark Regional Campus. Timothy McCarthy was also there, on a post doc. With our colleague, George Schumm, that made four logicians/philosophers of mathematics at the same place at the same time. There were also four or five top line logicians in the mathematics department, several on post docs or temporary appointments. Most of them had keen interests in philosophy, matching our own interests in mathematical logic.

It was a wonderful year for me, one of the most exciting (and productive) in my career. We had at least two meetings each week, one in our department and one in mathematics. David was an energetic member of the two groups. He gave several talks, and he always had insights to bring to the work of the others. Early in my career, this experience showed how wonderful it can be to work in a friendly, productive group.

After that year, David took a position in Edinburgh, Scotland, and the various post docs and temporary appointments ended. David and I stayed in touch professionally, off and on. Over the years, we rarely agreed on philosophical matters, but had enough respect and admiration for each other to enjoy a working relationship. We spent productive time together a few years later when I was a Visiting Fellow at the Center for Philosophy of Science at the University of Pittsburgh. Over the years, we regularly visited and gave talks at each other's institutions, sometimes for the sole reason of seeing each other and working together.

The year before last, we were both at the Hebrew University of Jerusalem. I was serving as a Presidential Fellow, and he was invited for a workshop on continuity. We were both looking forward to seeing each other there this academic year, where I would be returning, and he was appointed to a prestigious Fellowship at the Edelstein Center. We had planned a conference on intuitionism for the Spring of 2020. Both of our visits, and the conference, were postponed due to the current pandemic. We may be able to have the conference anyway, but without David, it will be, at best, bittersweet.

Over the years, I have had two major editorships: the *Oxford Handbook of the Philosophy of Logic and Mathematics*, published in 2005, and *The History of Continua: Philosophical and Mathematical Perspectives*, published by Oxford University Press this December. David contributed substantially to both volumes. For the latter one, David relieved a substantial problem, on short notice. One of the authors, who was scheduled to write on L. E. J. Brouwer and Hermann Weyl, pulled out after missing several deadlines. I took that article to be critical to the project. David took up the challenge and wrote a most interesting article on this, in addition to the article he had already contributed.

About a year ago, David and I started collaborating on a project. It has long been folklore that classical Peano arithmetic is definitionally equivalent to classical Zermelo-Fraenkel set theory when the axiom of infinity is replaced with its negation. My colleague, Neil Tennant, noted that there is no constructive version of this. This led me to propose a simple constructive axiomatization of the hereditarily finite sets. David and I became interested in this theory, and developed it fully, showing it to be definitionally equivalent to Heyting arithmetic. As a kind of bonus, the situation with the classical theories is also clarified and improved. That paper in now under review, and I expect it will be published soon.

Among philosophers and classically minded logicians, it is widely believed that the axiom of choice is unproblematically true in constructive mathematics. This is far from true. Our second project was to make this case in compelling detail. That work is substantially completed, but I do not know where it can go from here.

We were working on a third collaboration, a kind of spinoff from the first. The notion of definitional equivalence is one of the strongest relations that theories can have. Arguably, if two theories are definitionally equivalent, then they are notational variants of each other. However, the notion only seems to work for pairs of theories that have the same logic. The two of us were working on an account that would produce interesting and important results for theories with different logics, mostly classical and intuitionistic, but not limited to those. This project was not as far along as the others, and I am not sure if I can bring it to completion.

With David's tragic passing, I have lost an important colleague and collaborator, and a longstanding, dear friend.

Andrew Smith

Professor McCarty emailed me one day in February 2013 to inform me that I was accepted for admission into the graduate program at IU. I was excited about the news and spent the rest of the day and the next doing research on the department, but I did not reply to the email. That next day, McCarty called me and very cordially asked me if I had received his email. I mentioned that I had and that, in fact, I was reading one of his papers on Wittgenstein the moment he called. He replied: "Well, then it's cosmic."

So, my first impression of McCarty was that he was sharp-witted and cordial. This was confirmed when I visited IU for Welcome Weekend, when he showed prospective students around Bloomington and IU as Director of Graduate Admissions. I also got my first impression of his rather commanding personal presence and outsized gifts as teacher and expositor as he shared his expansive knowledge of the town and the university. These impressions were confirmed firsthand in Fall 2013 when I took P505 with him. Immediately I was enthralled with his teaching and with the material, even though I was also mildly terrified. I spent hours (and hours, and hours, and hours) on homework, but he was always there in his office each week to give patient guidance on the homework, even sketching the solutions to the problems, provided he saw I learned from it.

Very soon I experienced his intense kindness for graduate students. About a third of the way through the semester, I walked to the front of the room to ask a question after class. Before I could ask, he said: "I think you are doing very well." I remember this comment probably because it gave me some desperately needed self-confidence in those confusing and intimidating times early in grad school. But I think I also remember his comment because of the *way* he said it: full of warmth and compassion, almost choking up when he spoke. There are many more times he spoke with this compassion and warmth to me: one day when I mentioned off-hand that I needed to turn in my car for repair and he offered to give me a ride to the repair shop, another day when he offered me help for the job market while taking me out to dinner as repayment for some task I am sure he had already compensated me for, yet another when some of us visited him in recovery after surgery and he offered me compliments on my work (although the warmth in the comment might have been partially caused by the scotch he was enjoying). I have his intense kindness to thank for my interest in logic and mathematics, in addition to the grading of two of his P505's, one undergraduate set theory course, and the editing projects he graciously allowed me to do.

McCarty was erudite, articulate, and strongly opinionated. I enjoyed being subjected to his intriguing exposition of various and variegated details of history, music, languages, science, culture, and much more. May I emphasize that he was *strongly* opinionated. I often asked myself: how could someone be a staunch rationalist, realist, Brouwerian intuitionist, and interested in the *late* Heidegger, all at once? That was McCarty. Somehow it made sense that this was so.

Philosophically I doubt we ever saw eye-to-eye – his contempt for anything resembling empiricism precluded that. But were it not for McCarty, I think I would have gone all my years thinking that mathematics "is like a bad cold," as he put it to me describing some empiricists' view of it: thinking of mathematics as something to be dealt with or that requires treatment from a distance. I believe, due to his influence, that one must take very seriously that mathematics is *both* an autonomous discipline *and* that serious disputes over its foundations are a part of its own enterprise. This conjunction, if not each of its conjuncts, fly in the face of common philosophical predilections. Against the first conjunct, common philosophical predilections have it that mathematics is a formalism or a by-product of something else (natural science? logic?), tagging along like a virus hooked inside a healthy body. Against the second conjunct, common philosophical predilections have it that we in philosophy departments stand over *here*, and those in mathematics departments stand over *there*, and we need to respect the foundational principles of classical mathematics (or as McCarty preferred to say, "conventional mathematics") they utter and therefore must study them from afar. For McCarty, mathematics describes a reality of its own, a reality as rich, wild, and weird as what any natural science describes, a reality which mathematical axioms can partially describe but never fully tame. For him, "philosophy is apiece with mathematics itself" – "mathematics is not," as the common predilection would have it, "stuck to a slide with the philosophic microscope over it" (David Charles McCarty, "Review: On the Failure of Mathematics' Philosophy." *Synthese*, Aug. 1993, Vol. 96, No. 2, pp. 255-291, at p. 284). There is no reason to shy away from saying boldly, as he did on the basis of his intuitionist mathematics, that foundational principles of classical mathematics such as the law of excluded middle and the axiom of choice are both *false* if our exploration of the mathematical jungle leads us there. He would vehemently object were I to report to him that I think empiricism, or some close relative, may yet be salvageable despite taking this view seriously. But it is an empiricism made better by trying to do so.

In that fateful P505 course in Fall 2013, McCarty was in the middle of one of his many passionate asides during class. I suspect he occasionally got bored of his board work and going over the printed course notes and wanted to sprinkle in some insight or fun before jumping back into business. For this aside, he decided to let the students know that the dry and strange inductive definitions and proofs by induction we were investigating were all reducible to set theory. Deciding his monologue needed to end, he landed one last quip before he returned to the board: "Soon even I shall be reduced to set theory." I do not know if we are reduced to set theory after death. (To be exact, I do not know if the existentially quantified sentences witnessed by us are reducible to set theory. *Mea culpa*, as he often said, for any suggestion of category mistake. Perhaps I misremembered the quip.) But I do know we are worse for his death, and that I miss him. Rest in peace, Professor.

Paul Vincent Spade

David was a complicated man. He could be difficult to get along with—sometimes to the point of being rigidly obstructive at faculty meetings—but, I have to say, I always was able to maintain cordial relations with him. It wasn't really that hard to figure out. He just wasn't going to tolerate any nonsense, either from his students in the classroom or from his colleagues in a faculty meeting! (And, as we all know too well, there's often a *lot* of nonsense that goes on at faculty meetings!)

I am convinced, David was the *very best* teacher I have ever observed in our department. I do not say this lightly, and I mean no disrespect to anyone else in our department, past or present. David was special. I recall talking with one of our graduate students who was writing a successful dissertation with Anil Gupta (who taught here for several years with great distinction), and he commented that Anil's teaching was "almost as good as McCarty's." Then, realizing that this might sound like faint praise, he hastened to assure me, "And that's high praise!" I reported this to Anil (without mentioning the student's name), and he responded in his usual humble way.

I did not really understand what the student meant until, some years later, I had the opportunity to attend a lecture David was giving to his undergraduate class in "Logic of Sets" here. (This was in connection with his promotion to full professor.) Now, I am no hot-shot logician, but I'm not a complete novice in the area either (and in fact did much of my early research on medieval views on the semantic paradoxes). But I was *flabbergasted* by what I witnessed in David's lecture I attended.

David wasn't wasting any time! He spent a few moments on some "lore and gossip" about the people who had proved some of the results we were discussing. But I was *exhausted* after the lecture. I came out thinking, "How did he do all that in one class period?" He was firing off questions to individual students. If they hesitated or were flummoxed, he would prod a little and then redirect the question to someone else, so that no one felt unduly pressured or embarrassed. And yet we covered a *lot* of ground. It was a *bravura* performance.

I mentioned that David could be "difficult" around the department. But it really wasn't that hard to figure out. He just wanted people to be serious and not to waste his time.

Our department has had a distinguished history of being *very* strong in logic. I used to joke with some of our students that we *required* not only more logic than most departments did, but also more than they (including their faculty) even *believed*! David certainly upheld that standard.

And it wasn't just logic. David was willing to teach almost anything, and did so with distinction: ancient Greek philosophy, aesthetics, nineteenth-century philosophy, and so on. I recall an informal "discussion group" I was running for a while with several

graduate students, where we would gather once a week at a local watering-hole downtown to read some St. Augustine in the original Latin. David was a regular and full participant.

One of the "difficulties" I mentioned of dealing with David was figuring out exactly what his *name* was. The full name was "David Charles McCarty," of course. But did he prefer to be called "David" or "Charles"? For as long as I had known him, I always called him "David." But then some of his graduate students started calling him "Charles McCarty." One day I finally asked him about this, and he said that, yes, among his family when he was young, he was always called "Charles." But his email address at IU was always "dmccarty," which suggests "David," not "Charles." So I figured this was not a sore point with him, and that worked out just fine.

David's death is a great loss. I was privileged to have known him and to have been his colleague!

Jennifer Watson

Though I only had the opportunity to work for the Philosophy Department for one academic year, Professor McCarty left a lasting legacy on me. The biggest lesson he taught me that I still carry into my career to this day is to always be inquisitive, to always ask questions and to work hard. I will never forget the first time I met David, into the office came this man wearing basketball shorts, a black t-shirt and a hooded sweatshirt. He walked up to the half door with a sheet of paper. He looked at me and asked who was responsible for processing reimbursements for books he had ordered. I kindly told him that I would take care of that right away. I had inquired at what field of study he taught in the field and had a brief conversation with him. It amazed the one colleague who had been in the office because up until that point, I believe he had the reputation of being a gruff man that wasn't personable.

David was a great man. When it was time for me to move on in my journey in IU, he personally came to say his well wishes for a lucrative career. He reminded me to always take the time to continue to learn, to use the opportunities that IU offers to continue the growth. He told me that my kindness and compassion paired with my inquisitive mind would take me to far places and is a trait that isn't found much in the world today.

I will forever be grateful for Professor McCarty and the lessons he taught me.

Alexander Webb

I had the privilege of interacting with Professor McCarty over the summer. He sat in on our reading group for Boolos' *Computability and Logic* . I don't think I have ever met someone in the area of logic and mathematics as patient, gracious and pedagogically effective as Professor McCarty. I learned a tremendous amount from him even in that short period of time, and I was very much looking forward to AI-ing for his course this

coming semester. This is surely a massive loss for the department. He was a brilliant philosopher, and in my interactions with him, a consummate gentlemen.