Foreword

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> The great question that hovers over this issue, one that we have dealt with mainly by indifference, is the question of what people are for. Is their greatest dignity in unemployment? Is the obsolescence of human beings now our social goal? One would conclude so from our attitude toward work, especially the manual work necessary to the long-term preservation of the land, and from our rush toward mechanization, automation, and computerization.
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> —*Berry, 1990*

What is AI for?

Who here remembers what Wendell Berry wrote in 1985, in an essay titled "What Are People For?"

Lest we forget, Berry called us to witness with him the waning connection between human labor and the land, a connection loosening hold as small, local farms were tilled under by the machinery of industrial-scale food production. Berry's essay grieved agricultural changes by then well afoot in mid-1980s Kentucky and its arable surrounds—perhaps reaching as far as a small farm you can remember near where you grew up. His own response to that core question—What Are People For?—pinwheels out, feathering into wider and wider ploughlines. Modern technological change keeps this question lit brightly as if on a marquee; it is a question we must ask and answer again and again in an increasingly machined, engineered world. "What Are People For?" was critical and cautious without resorting to moral panic. Berry sketched out an ecological understanding of the deeply interdependent networks we are, whether we like it or not, a part of, an intricate lattice linking food, labor, well-being, and community.

Berry's essay was published at nearly the same time as Hugh Burns' prescient 1983 *Computers and Composition* piece, "A Note on Composition and Artificial Intelligence." Berry's writing traced vectors of analysis back to the landscape, whereas Burns, owing to his appointment with the Air Force Human Resources Laboratory at Lowry Air Force Base, contemplated what traditional artificial intelligence might mean for writing teachers and, by proxy, for writers heeding the guidance and support of those teachers. Burns had programmed "three open-ended invention programs named TOPOI, BURKE, and TAGI," (Burns, 1983) and he saw in them promising possibilities for assisting writers as they composed. These programs identified strings of text from an in-progress shitty first draft (SFD) and reformulated the strings into dialogue and questions, designed

to aerate a writer's repertoire of possibility. This important work, which is referenced in *Artificial Infrastructures* [History, Equity: Early Provocations section], sets up as one among many formative efforts that helped to establish the field of computers and writing. Writing machines and implements for inscription have been with us for millennia. Yet, because technological change is double-edged, clear consensus has never settled for long about just how much or in what ways computers ought to assist writers. We can trace similar patterns of spirited flux—deliberation, disagreement, experimentation, and mixed-use resolve—across the arcs of word processing, spelling and grammar checkers, predictive autocomplete, speech-to-text translators, and at least a hundred more examples.

The November 30, 2022, public release of ChatGPT unleashed a frenzy of engagement with generative artificial intelligence, catapulting many professionals right along with everyday folks into the fitful, feverish conditions Scott Graham, in *The Doctor and the Algorithm* (2022), characterizes as a boiling hot summer. Leading into his research on health-related AI, Graham comments that researchers have for a good long while resorted to seasonal metaphors to account for AI's patterns of rising and falling intensity. As interest in AI cools off, winter returns; then, as AI warms up again, summer sets in. The periodic flux is nothing new, although, as Graham acknowledges, we are in "a particularly hot AI summer of late" (Graham, 2022, p. 3). In dollars and cents, the high heat metaphor translates to titanic capital speculation and investment. Precise accounting is difficult to track, but for a passing temperature check one needs to look no further than the magnitude of investment. Consider David Cahn's optimistic yet cautious series of market analysis articles with Sequoia Capital, first, in September 2023, "AI's $200B Question," followed nine months later in June 2024 by a piece titled "AI's $600B Question." The steep fiscal trendline underscores a growing concern for whether a hype bubble happens to be ballooning more grandly than will rise to meet any comparable investor expectations. The investments in AI are enormous, and the returns remain in question (Cahn, 2023, 2024).

Of course, extreme seasonality and grandiose capital investments in artificial intelligence only tell part of the story. With the continuing goal of walking, as one would pace the fence line of a bygone small farm field, the opening question, What Is AI For?, I want to share one more anecdote before discussing some of what I consider to be the most poignant themes in *Artificial Infrastructures*. In the Fall 2024 semester, my daughter, Isabel, started college as a first-year student enrolled at a large, midwestern public university. In that first semester, with her interests taking hold around public health, biochemistry, and writing, she enrolled in classes matched with these areas of study and with general education requirements.

General education fortifies the undergraduate degree path with a colorful spectrum of classes meant to connect the dots as a generalist who is knowledgeable across areas of specialization, thereby laying a groundwork for an informed, functional democratic citizenry. Put another way, a general education expects that a pre-law student ought to understand how plants grow, that a mechanical

engineer ought to fathom the health impacts of food deserts, or that a computer scientist ought to know enough about early childhood education programs to support them as a public good for herself as for her neighbor.

To zoom in and then out again on Isabel's small subset of general education classes is to notice extremely varied framings of artificial intelligence. As I recall, starkly stated right there in the syllabus, one class prohibited any use of generative AI whatsoever. Another class was ambiguously *laissez-faire*, a phrase which translates to "let do," in effect trusting students to enlist the assistance of AI in whatever ways they wished. With a third class came yet another stance; in this case, students were encouraged to use one specific AI platform for writing-related matters of outlining, sequencing, and rearrangement. When we would check in via Zoom about how classes were going, these jumbled approaches came up often. I was proud to see her negotiating these complex issues so deliberatively, but I was also led to witness through our conversations the quagmire so many have found themselves in, as they forge way, grasping at ethicality while anticipating what is just ahead for this wildly accelerated trajectory of AI implementation into learning environments. Furthermore, as one who researches and teaches writing in college, I felt a responsibility to provide some kernel of wisdom for discerning which approaches to AI were *good* for Isabel's development as a writer. This uneven landscape shows us from yet another angle the moment we are in, when college students are making decisions about how to write among radically assorted approaches, when experienced professionals can offer suggestions while still feeling uncertain, and when policies range from hardline opposition, even refusal, all the way to wholesale, unconditional embrace.

Personally and professionally, I am not alone in my misgivings about AI, but I am oftentimes conflicted, because I also recognize that AI can powerfully aid human problem-solving. These complex feelings circle again to the opening refrain, What Is AI For? As with countless examples of technological change, paradoxes bloom, and we are sure to commit missteps. It seems to me that our responsibility in this moment, whether as students or as teachers, whether as parents or as public citizens, obligates us to find, follow, and to engage first-hand, when possible, in specific use cases.

Glancing over general cases, we can easily locate practical, applied scenarios to answer for AI's assistive merits. Sector for sector, there are plenty of general cases to show for what AI can do. For example, AI has participated in modeling protein chains, it has accelerated diagnoses of rare health conditions, and it has indexed biodiversity and posed opportunities for environmental rehabilitation. Yet for every positive, a problematic counterpart looms: anticipated job loss, deepfakes and misinformation, the ecological impacts of gargantuan data centers, the proliferation of mainstream monolinguistic standards, and violations of personal privacy, to list only a few. Moving from general scenarios toward specific use cases is a sharp, incisive approach to research. Contexts bring more sharply into view the specific ways a human who writes is undeniably embodied, earthbound/

terrestrial, and mortal. Context compels us to consider humanistic conditions as they are co-shaped with more-than-humans (e.g., a cat or a chicken who curls into the lap of the person using AI) and with a broader, shared environment. With this in mind, I consider the approach showcased in *Artificial Infrastructures* to be one we all can learn from for its adherence to a research design ethically modeled and contextualist all throughout.

Artificial Infrastructures places specific use cases at the forefront of its inquiry into generative AI via semi-structured interviews with three professional writers. Many of the paradoxes I have tried to describe also surface throughout the interviews. The careful analysis by John Sherrill and Michael Salvo call readers again to the mantle of possibility, acknowledging that AI, albeit in myriad forms, is here, that many people are learning how to use it and making sense of what to use it for. An implicit exigence for their research extends from Cindy Selfe's insistence on the importance of paying attention (Selfe, 1999): for discernment about how to use AI to remain ethical, our learning about specific use cases ought to be careful and continuous.

The use cases anchoring *Artificial Infrastructures* bring to light numerous themes, each deepened by this study and extensible for continuing inquiry.

Definitional Parameters

Readers will find early in the book a crucial historical distinction drawn between *traditional* artificial intelligence and *generative* artificial intelligence. These and other definitions help us identify important differences, for example, between open models and closed models, between platforms indiscriminate about intellectual property and those designed to honor intellectual property rights. Distinctions of this sort help us all become more critical, astute users of AI.

Root Metaphors

Throughout the AI frenzy of recent years, different metaphors have jostled for explanatory power. The summer-winter seasonality metaphor referenced earlier is one example. In the book, you will encounter additional metaphors: photography, bicycles, pizza, and soup. In addition to overt metaphors, root metaphors are ingrained even more deeply, both in the book and in the interviews, at times hinting at mechanical explanations, others tending toward context. By noticing and exploring these root metaphors, we can gauge the deeper values guiding mixed, emergent uses of generative AI.

Writing and Its Social Turns

In the 1980s, the social turn for writing commonly referred to a breakthrough in understanding acts of writing as socially entangled—as acts of involvement not purely centered on texts and texts alone (Brandt, 1990), but circumscribed in human

relationships, lifeworlds, identities, and kinship networks (Kinney et al., 2010; Rhodes & Alexander, 2014). In the decades since, social dimensions of literate practices have expanded again, as research has inquired yet further into the ways acts of reading and writing amplify, create, and sustain connection. However, no account of a social turn would be complete without recognizing how acts of reading and writing are entwined with technologies. When one writes with the assistance of generative AI, has a new and distinctive social turn unfolded? The authors of *Artificial Infrastructures* urge us to think about generative AI as collaborative. Returning to the thesis that specific use cases are essential to our emerging grasp of literate activity in this moment, consider as you read how the involvement of generative AI constitutes an expanded, and in many ways disruptive, sociotechnological turn for literacy.

Labor Saving

Etched into accounts of generative AI are suggestions that these powerful (though also frequently clumsy) agents will relieve people from arduous labors. Generative AI relieves workers, is how this line of reasoning tends to go, helping us bypass onerous, repeating tasks as it lubricates workflows so we can reclaim a few hours each week. As a prevailing theme, labor saving points us back to Berry's question, "What Are People For?" The question stages again an interdependence that remains unresolved and unresolvable, showing us the eternal puzzle where, piece by piece, many not fitting neatly, humans fashion technologies and technologies refashion humans. Meanwhile this blue-green planet spins and hurtles through space for a while longer.

Given this, what will we do with our saved time? What forces/lessons/values will guide us in these choices?

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Amidst enthusiasts, amidst refusalists, we shall continue to forge a way with generative AI in the world. Specific use cases, such as those presented so thoughtfully in this book, can help us to distinguish among the opportunities, to forecast the consequences, and to weigh the trade-offs as the current frenzy cools off, as capital investment stabilizes, and as people live as well as they can with yet another technological paradox. As we go, let us not deal with the question, What Is AI For?, too casually or with indifference. Refresh the question; answer it continuously. For calling from the shadows is a closely related question, What Is AI *Good* For?, and we can hardly do justice as ethical communicators unless we also care actively for the choices, the complications, and the fray detailed within these—and our own—specific use cases.

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