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I, for one, welcome our AI overlords: AI part I

When I'm decanting angst and shirking obligations and slip onto Twitter, dotted among the horrors are breathless reminders that I'm toast if I don't submit my calendar, email, and aspirations to a Claude or GPT agent to "level up" my life. I get a kick out of these and send myself fanciful notes like "pro plan?" or "Codex - OSCE app." We are four years into the large language model (LLM) ubiquity era, so nearly all of us have noodled around and wrestled with the zillion-dollar hype machine of promises and warnings.

I'm here to provide a bullish case on the integration of artificial intelligence (AI) into the humdrum of urologists and trainees' lives. Not the futurist take on humanoid robots, privacy-immolating AI glasses, or Wall-E-like human disenfranchisement while machines do all the work and gift us morsels of GDP; more like the near-term hope of offloading work of marginal cognition, freeing space for thinking and relating, and optimizing our ability to learn and translate knowledge.

The Diffusion of Innovations curve enters the discourse whenever a new paradigm emerges, be it surgical tech, social media, or smartphones.¹ We are seeing "innovators" among our urologic colleagues, coding scheduling, data collating, or charting apps and proselytizing the future's arrival. For them, the upside is obvious, both in workflow and in the reputational boon the avant-garde life avails. The rest of us fall later on the curve. The huge majority will never open a coding environment or GitHub repository, although we benefit from innovators' successful practice as we sniff around chosen LLMs and products promising to remove straws from our backs. Some "laggards" balk at hallucinations, privacy, safety, and ethical risks.

This optimistic take centers on two things. The first is that much of our work is medium-cognition infrastructure around the thinking part for which we are trained and paid, and from which satisfac-

tion arises. Drafting and reading memos, minutes, and policies; managing calendars; sifting email; formatting documents and references; farting around optimizing a PubMed query. Digital productivity guru David Sparks aptly calls this "donkey work," pure friction against real work.

The second is newer ways of working with LLMs as the models evolve. Early work on honing output centered on *prompting*, and this still holds for small-scale interactions. The more comprehensive, explicit, and constrained the prompt, the better the output. The concept du jour with LLMs is now *context*. LLMs do not natively retain memory and generate fresh output without standardization. Newer modes, like "projects" or "cowork" environments, allow one to encode standards, tone, preferences, templates, instructions, and governing policies into systems that provide repeatable output for recurring jobs.

The next evolution is from the chatbot interface to agentic AI, which means the LLM can open pages, click, fill fields, and manipulate files and folders — that is, do work on your computer without you. These have more learning curve and setup effort, but the payoff is theoretically enormous. Think schedule creation from words to spreadsheet; automated lab, imaging and referral PDF conversion; email and to-do prioritization; scheduled self-assessment; research-idea-to-template automation; meeting minutes parsing; grant application or manuscript scanning; literature survey-and-summarize bots; and on and on.

A key part of the cultural conversation around wellness and burnout centers on the gap between intention and output. We are happier when barriers, obfuscation, ambiguity, and distraction are minimized in our work lives. Generative AI at its ideal deployment is a multi-tool that can shrink gaps that addle workflows, and more importantly, motivation. Ease, reliability, and standardization are great — if we deploy the recaptured energy positively — but my mind goes to the *first* fric-

tion, the activation energy, that threatens ideas before they germinate.

Many of our Someday Project lists — “good intention’s mausoleum” — are places where the hopeful buzz of new ideas meets the reality of refining, planning, and performing the work amid competition from all the rest.² Every paper in this journal is a testament to overcoming inertia and obstacle, but each is a survivor among the many more that never come to pass. Building low-friction workflows that convert undercooked ideas into scaffolds, plans, and tractable next steps may help keep motivation above water, keep thinking at the fore, and allow more of our creativity to become data.

The marvel, or disquiet, around LLMs usually flows from the still-incredible vision of structured prose unfurling on the screen, seeming to achieve in seconds what might take a meat brain hours. This invites the user to wonder how much professional writing they might offload to the machine. I maintain this is the wrong strategy: preserving thinking is the point of delegating low-value work, and writing is both the act of thinking and its expression. That said, much document creation is not meant for expression, conversation, or persuasion, and is ripe for offloading. Reference management, transcription of appointments or meetings, light grammar editing, converting notes into bullets or agendas, boilerplate formatting (and the many others you may already be doing) are small miseries that make excellent LLM fodder. Their value compounds when the machine knows the format, audience, journal instructions, and author’s intentions.

The publishing world is exposed to LLM potential at every step, from authors’ and journals’ perspectives. Much care is needed to prevent human-exempt authorship and peer review from metastasizing, but there is a baby in this bathtub. Manuscript formatting, results and methods readability, project checklists (think CONSORT or PRISMA adherence), keyword generation, and title page, authorship, and acknowledgement statements jump to mind. Peer review in the intermediate term will be front-loaded by in-house, first-pass tools. Reviewers have a statistics tutor on call. Lay summaries, press releases, and social media blurbs are at the front of journals’ tool kits.^{3,4} Journals, reviewers, and researchers can encode standards once and reuse them without building prompts and conversations anew. Surely these are all of the places LLMs will be used in publishing!

Many of us are explicitly educators or in academic training. Still more participate in professional devel-

opment, and we are all students of urology for life. Learning most often takes the form of passive reading or listening, perhaps highlighting or scribbling a note, and hoping that working memory can sort and cross-reference new knowledge. This exists almost entirely outside evidence-backed strategies like active recall, spaced repetition, and testing effects. Within bounds of copyright (!), your chosen LLM is perfectly and tirelessly suited to quiz you, identify your errors, and reinforce corrections through scheduled reassessment and Socratic tutoring, ratcheting complexity up or down until concepts click.

Once again, remembered context means the system knows your notes, curriculum, objectives, error types, and preferences, rather than one-off “quiz me” prompts. Every learner owes themselves these practices; every teacher can draft formative assessments; CPD leaders can draft Section 3 assessments in moments. Make your notes as you read papers or chapters. Listen to talks or lectures. Upload them, have the LLM integrate with prior notes, and let it quiz you to saturation. Caveat: resist the temptation to let the machine *create* your notes or flash cards; these are the recall and organization practices that underpin learning in the first place!

These are early days. The models have scoured the public internet of text, and the era of reinforcement learning and workflow agents is in full swing. Out-front urologists have found myriad ways to integrate AI already, for fun or flow. Scores more are casual GPT fiddlers, dictation-bot devotees, and OpenEvidence enthusiasts. The rest of us are well-advised to press pause on luddite impulses, doomerism, megacorp antipathy, or whichever unease keeps us away, and move beyond LLM-as-web-search stasis. A bit of tinkering and you can still be the thinker, with an indefatigable assistant helping reel in the gaps between your intentions and execution

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