RESEARCH BRIEF

Communicating With Students in the Age of Al

THE CHRONICLE OF HIGHER EDUCATION



SUPPORT

Communicating With Students in the Age of Al



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EXECUTIVE SUMMARY



olleges pride themselves on being the place where students learn to think. What role, educators now wonder, will artificial intelligence have in that?

Provosts are trying to determine where guardrails should be placed on AI's use in student work, faculty work, and institutional communication to students. Administrators see enormous opportunities, though, for using AI to increase staff efficiency, instructor effectiveness, and improve learning. Skeptics worry about

the potentially dehumanizing effect of using AI and wonder how students will learn to write or perform research if software does those tasks for them.

Experimentation with artificial intelligence has been around for decades, ever since Alan Turing, a British mathematician, proposed the "<u>Turing Test</u>" in 1950. True machine intelligence would be

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achieved, Turing wrote, once a human interrogator couldn't tell the difference between a machine and a human in written conversation.

Only a few suggest that AI could pass a Turing Test now, particularly if they have tried to wheedle a helpful answer from a less-thanclever customer-service chatbot. But artificial intelligence has exploded into the public consciousness, the venture-capital world, and academe. In a survey conducted this year in 16 countries by the Digital Education Council, an alliance of companies and colleges that advocate for technological innovation in education, 86 percent of college students said they use AI in their studies. So far, the uses are often relatively low tech, such as looking for information or checking grammar. But 24 percent of students responding to the survey said they had used AI to create a first draft of a college assignment.

Generative AI, once largely the domain of researchers, spilled into broader public use in 2022 with the release of ChatGPT. That service now has roughly 200 million weekly active users, according to DemandSage, a datainsight company. Subsequent versions of that product and the proliferation of other generative-AI tools have created new possibilities for those who would like to farm out repetitive tasks on their campuses, such as course registration or answering financial-aid questions, or for those who believe that, if fed the proper background, generative AI could deliver properly branded messages to potential applicants or assist professors with large classes in supporting their students.

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Academics are working in an ever-shifting climate of updated versions of existing AI products and releases of new ones. generative-AI programs that creators say will be better suited for academe because of an <u>emphasis on diversity and inclusion</u>. A few colleges are creating, with corporate partners, proprietary campus AI systems that will give their students and professors advanced features and more data privacy without having to pay individually for premium versions of existing tools.

In this rapidly shifting, almost chaotic, context, *The Chronicle of Higher Education* sought to find out more about academic attitudes toward the use of AI for communication with students and about the deployment of AI technology on campuses. From August 15 to September 3, *The Chronicle* conducted a survey, which was underwritten by Zoom, of administrators and faculty members employed at two- or four-year institutions in the United States. Eight hundred and forty-one people responded; 407 of them administrators and 434 faculty members. Follow-up interviews filled in the survey answers with more detail about how administrators are wrestling with AI issues, how communications offices are using generative AI, and how faculty members are putting AI to work in disciplines as diverse as creative writing, physical therapy, and architecture.

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dministrators and faculty members view using artificial intelligence to communicate with students as an important opportunity, but few campuses are formally putting it to use, the *Chronicle* survey found. Eighty-three percent of administrators who answered the survey agreed or strongly agreed that generative artificial-intelligence tools offer a chance for their institutions to improve how they communicate with students.

How much do you agree with this statement? "Generative artificial-intelligence tools offer an opportunity for your institution to improve how it communicates with students."



Source: Chronicle survey of 841 college administrators and faculty members Note: Due to rounding, figures might not total 100 percent. But only a minority of those responding to the survey said their institutions had used generative AI to create content for communicating with students or had used chatbots, software that answers student questions in a way that simulates conversation.



Source: Chronicle survey of 841 college administrators and faculty members

Does your institution use generative-Al tools to help create content for communications with students?



When chatbots are used, their most frequent applications are in recruitment, admissions, and financial aid, the survey found.



In what areas is your chatbot programmed to help answer students' questions? Select all that apply.

An even-smaller minority of responders — only 3 percent of faculty members — said their institution has experimented with virtual teaching assistants.



Follow-up interviews conducted after the survey indicate that most colleges have set preliminary guidelines for student use of artificial intelligence, or relegated that responsibility to individual faculty members and provided sample language that can be inserted into syllabi. A common principle of those guidelines is to require students to cite how AI is used in their assignments. Some faculty members said they would like to see more student involvement in shaping guidelines. "Where are the students in this process?" asks Ashok Goel, a professor of computer science at the Georgia Institute of Technology and a veteran of AI research in education. "I want to hear their perspective."

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In the Chronicle survey, most of the faculty members and administrators surveyed said they operate without institutional guidelines on many AI issues or are unsure if their institution has guidelines. Sixty-three percent of administrators, for instance, said their college had not issued guidelines for the use of generative AI by administrators and staff members in crafting communications for students.



Has your institution issued guidelines to administrators and staff members for using

Seventy-one percent of faculty members said their institution had not issued guidelines for the use of generative AI or virtual teaching assistants to communicate with students.



But some of the administrators and faculty members who use virtual teaching assistants, or as some call them, "tutor bots," are enthusiastic. "Several recent experiments have surpassed our expectations," says

Charlie Atkinson, operations director of the executive education program at Harvard Business School. "We are introducing AI teaching assistants who discuss cases with students, answer questions about program material, and offer guidance on preparation. They are increasing engagement and broadening our reach." The work at Harvard Business School was led by faculty, says Atkinson, originally by one professor who had a particular interest in trying virtual teaching assistants.

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In the *Chronicle* survey, administrators were more enthusiastic about using AI than faculty members. Seventy-four percent of administrators agreed that AI offers an opportunity for instructors to improve how they communicate with students, for instance, while only 48 percent of faculty members felt the same way.



The top benefits that administrators saw for using generative AI in communications with students were increased staff efficiency, improved student engagement, language translation, and increased personalization of messages.



What benefits, if any, do you expect from the use of generative-Al tools, including

Art Markman, senior vice provost for academic affairs at the University of Texas at Austin, says he felt colleges — not necessarily his own — have been slow to communicate universitywide about AI to students and to faculty, and that the AI resources for faculty members and students have been unevenly distributed.

Although the general tone of survey responses was optimistic about the use of AI at colleges, there was a strong pessimistic undercurrent. "Communication is something that takes place between two parties who have some kind of real relationship," noted one faculty member in one of the survey's comment sections. "I know all too well how overburdened instructors are, but replacing our efforts at connection with content generated by generative AI cuts against the relational nature of teaching and learning." Other concerns about generative AI, the survey indicated, were hallucinations, biased responses, and a lack of transparency in its use.



What concerns, if any, do you have about the use of generative-Al tools, including chatbots, to communicate with students? Select all that apply.

Not reflected in the survey was the widespread fear that students will use AI to cheat. Peter M. Appelbaum, a professor of education studies at Arcadia University, says, "A lot of my colleagues at Arcadia and elsewhere worry about AI replacing a lot of what they expect students to do in order to demonstrate learning."

He views AI as analogous to the introduction of calculators in math education. Like calculators, he says, AI makes "it possible to do things that you couldn't do because of the time constraints. It does things for you, so now you can use that time to do more important work."

Al makes "it possible to do things that you couldn't do because of the time constraints. It does things for you, so now you can use that time to do more important work." Marianne Miserandino, a psychology professor and an AI fellow this year at Arcadia's Center for Teaching, Learning, and Mentoring, says she had heard fellow psychology professors say their students were complaining that AI tools were only giving them a "surface, superficial answer. It's not going deep the way they need to for their assignments. It takes away students' voices when writing, and students don't want to lose their voices."

Her perspective is that professors should focus on student learning outcomes. Professors should ask, she says, "What is it they want students to get from this assignment?" Then they should focus on achieving that and "not fret about the AI." She and others interviewed stressed that software being sold for detecting AI use by students appears to discriminate against the disadvantaged, the neurodiverse, and nonnative English speakers. False positives could taint students who are accused and bog down colleges in difficult investigations, many administrators said.



Markman, the vice provost at the University of Texas at Austin, says that a powerful counterweight to worrying about students' cheating with AI is to do a better job of explaining to students why learning from their assignments matters. His favorite analogy is if "your job is to shoot free throws in front of 19,000 people, you're not going to hire somebody else to do your freethrow-shooting practice. Because you're the one who's going to be out there with the game on the line."

At the same time, he says colleges don't want students to feel that "anytime I play around with these large language models, I must be cheating, so I'm going to just stay away from them." That, he says, could strip the students of the opportunity of using the tools to get insights that they might not get otherwise.

Goel, the professor at Georgia Tech, was one of the first scientists to experiment with virtual teaching assistants. He says that AI increases his hope for the future of education. "This is a really exciting time to be a teacher," he says, "because suddenly the scope of the things I can envision doing in my classroom has exploded by an order of magnitude."

AI's current capabilities, says Goel, who is also executive director of the National AI Institute for Adult Learning and Online Education, "have forced me to rethink everything I'm teaching — what I'm teaching, why I'm teaching it, how I'm teaching it, and how I make assessments."



When Faculty Members Meet Al

aculty members at smaller, private liberal-arts colleges feel less urgency about harnessing AI for communicating with students than those at large public universities. Although the survey

did not distinguish among the size of colleges, individual written comments suggested this divide. "We aren't huge," said one faculty member from a private New York college. "We communicate with smaller classes for the most part. Can't we handle our own emails?"

"We aren't huge. We communicate with smaller classes for the most part. Can't we handle our own emails?"

A professor from a small private Midwestern college acknowledged that using generative AI might be useful for giving answers to "stupid questions" if the answer is just "It's in the syllabus."

"Other than that, what's the point?" she added. "We need to learn to communicate as humans, to formulate logical questions, to solve problems. AI cannot do this for us. How would asking AI a question in semi-coherent, grammatically incorrect form help students to learn how to ask questions in the first place?"



At Southern New Hampshire University, Robert MacAuslan, vice president for artificial intelligence, has begun an "AI audit" of all 1,500 courses the university offers, to "find out which ones are more vulnerable to exploitation via generative AI and which ones can most easily incorporate the usage of generative AI in a meaningful way." He acknowledges the job is a "heavy lift." From his perspective, he says, "We need to go through and make sure that critical thinking is still a key component, even where generative AI might be deployed."

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More than half of Southern New Hampshire faculty and staff members have gone through basic AI-literacy workshops, he says, with the goal of making sure they know how to deploy AI "ethically and appropriately." But, he adds, no administrator will dictate to faculty that they have to use AI in their classrooms.

Carnegie Mellon University, in Pittsburgh, has long been known as

a tech-forward institution, where many pioneers of AI have worked. Last spring it opened a call for proposals, offering faculty members up to \$150,000 over two years to develop new AI tools that would have curricular uses. Forty-three proposals were submitted. The winning projects spanned diverse disciplines: Researchers hope to develop a virtual voice coach for singers, an AI-enhanced writing studio, and a system to blend visual, auditory, and textual feedback for students, in the hope that the "multimodal" feedback would reach a more diverse set of learners and improve retention of learned material.

Those projects are to develop totally new tools: Carnegie Mellon also has programs that support those faculty members who want to try existing tools in new curricular applications. Marsha Lovett, vice provost for teaching and learning innovation, says she wants to focus not on technology but on learning science, to find out how to design and incorporate AI to improve student experiences and outcomes. She is working with faculty members, she says, "to think about teaching as research." She wants to avoid "just throwing darts in the dark," she says, and help faculty members use "datainformed iterative improvement of class activities to get to more of the target learning outcomes they're looking for."



Case Studies in the Classroom

t other institutions, some faculty members who have tried to incorporate AI in their teaching say they have found it helpful.

At the University of California at Riverside, Goldberry Long, an associate professor of teaching, leads classes in creative writing, a field many might think is not a good candidate for help from AI.

She recently won the university's award for innovative

teaching and has a literary life herself: *The New York Times* called her first novel, *Juniper Tree Burning*, "a big, fiery howl of a book."

In response to the rise of generative-AI tools, Long spent the summer overhauling her favorite course to teach, "Introduction to Creative Writing," which she has taught since 2007. This year she has 260 students. "Most people say you can't teach [creative writing] in that size class," she says, "but I certainly do, and I am very meticulous about verifying that I do."

In the revised form of her class, she has put most of her didactic content into short, fiveto seven-minute videos, with quizzes embedded in them, that students are expected to watch at home. Students will write almost exclusively in class, but the class will also include discussions. "I've flipped the class," she says, "but I have to flip it very carefully, because part of what I do in class is very interactive."

She might, for instance, have students discuss whether a sample of text was generated by AI or written by a real person — a 21stcentury version of the Turing Test. Or she might have them discuss what elements of good writing are missing in a "clean," grammatically correct text written by AI. She also likes to watch as students take something written by generative AI and make it their own, "to wrestle ownership away from it."

"I like the idea of showing them how they have more authority than a machine's artificial intelligence when it comes to their own lives," she says. She once gave ChatGPT some of her class assignments. "It did an acceptable job," she says. "But the best writing in my class from my students is filled with life and voice. ChatGPT has no emotional fervor."

She sees some use for generative AI in grading essays, since there are repetitive comments that she has to make, such as asking students to back up assertions with evidence. "Teaching writing is extremely hard," she says, "and we could use some help."

In a similar way to Long, Appelbaum, at Arcadia University, centers AI in his classroom instead of leaving it on the edges. In his gender and sexuality course, for instance, he might ask a generative-AI chatbot to come up with some project ideas looking at gender and sexuality in social institutions of education.

The class might discuss the first 10 ideas generated and then give the bot additional prompts: "stop exclusively using binary definitions of gender," or "make sure to include Black feminist theory." After many rounds of prompting, the generative-AI engine will often have created pretty good project ideas, he says, and he encourages his students to use the ideas if they want.

In the process, he says, students learn to use generative AI more effectively and understand that it doesn't "question or problematize binary categories of gender and sexuality." It will likely miss recent research that isn't yet available on the internet and will have the same flaws that older theoretical and research literature does, missing, perhaps, the experience of those who have been both poor and gay.

Tarang Kumar Jain is an associate professor of physical therapy and athletic training at Northern Arizona University and vice president for the faculty senate, where he has listened in on discussions about the introduction of AI. He says he is experimenting cautiously with AI and has an informal focus group of students that he works with.

Physical therapy starts with memorization, he says, then moves on to more complex theory and clinical training. AI can create multiple-choice questions, Jain says, that could help students test themselves on basic knowledge, such as anatomy. But the goal of college physical-therapy departments is to have students graduate with good bedside manners and pass licensing exams



that will include working with patient case studies and require students to critique, analyze, and evaluate. Jain sees limits on how much AI can help students in those more-advanced realms.

AI is, he says, "a people pleaser" that delivers results based on biases buried in questions or the knowledge base of medical research. Federal privacy laws should block anyone from putting real patient data into AI, Jain says, limiting AI's ability to create real case studies. His own experiments with AI diagnosing simulated case studies found it came up with the correct diagnosis only 70 percent of the time — not a comforting proportion for potential patients.

At the University of Texas at Austin School of Architecture, Kory Bieg is an associate professor and associate dean of academic affairs. He teaches a computational-design course that looks at how software and other computational tools can be applied in architecture. ChatGPT, he says, can write computer code that creates drawings, cutting down on student time spent learning to write code. "What used to take me over half the semester in a class takes me two weeks now," he says, "which is really incredible. So that expands what we can cover."

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Bieg says AI will allow architects working in the early conceptual stages of a building to generate many more options that they can explore at low cost. "We can advance a lot of different designs simultaneously," he says, testing geometry, color, light from windows, materials used, heating and cooling needs, and many other details that would usually be analyzed much later in the process.

The change, he says, allows architects more time to spend on design and less time supervising execution. They can become more expert on processes previously done by subcontractors. In one class, he and his students wanted lights in a building that would respond to people's movements. The class used AI to write computer code, have the code embedded in a circuit board, and create the lighting installation in a week, a process that would normally have taken months.

AI has biases when it comes to design that architects need to be wary of, Bieg says. A colleague of his used English text prompts to simulate Japanese architecture, and the result, he says, was very touristy, stereotypical Japanese buildings. But when the colleague used Japanese prompts, the buildings were less apt to look like the shrines and the temples in guidebooks. What excites Bieg about AI in architecture, he says, is "our training and architectural history and theory is going to become even more relevant because it feeds an ability to curate better. Maybe we're not drafting line by line on a page, but we're making choices, and those choices come with the knowledge of history and theory."

Students should be clear on when they use AI, why they are using it, and how they are using it.

In architecture, as in other disciplines, Bieg emphasizes the importance of transparency: Students should be clear on when they use AI, why they are using it, and how they are using it. "As long as you do that," he says "I think it's OK."

The *Chronicle* survey found that virtual teaching assistants are often trained on logistics: course schedules, grading policies, assignment deadlines. Twenty-five percent of faculty members said virtual assistants can answer such logistical questions, and 35 percent said the assistants could offer nudges on coursework. Thirtyone percent said the virtual assistants they use could answer questions about a course subject and lessons.



Source: Chronicle survey of 841 college administrators and faculty members Note: Only responses indicating 'Yes' to the question 'Have faculty members at your institution used virtual teaching assistants, which are chatbots that support students in an academic course?' are included in the output. The total number of respondents who said yes to this question was 98. The *Chronicle* survey revealed a low level of faculty satisfaction with the virtual teaching assistants they are using. Only 2 percent of faculty members responded "Yes, it works well" when asked if the assistants had improved communication with students. Twenty-five percent of faculty said they had seen some improvement, but the assistant needed fine-tuning. The remaining 73 percent were either unsure about the result of using a virtual assistant or felt the investment had not paid off yet.



A case in point might be Harvard Business School, where teaching, both in the M.B.A. and executive education programs, centers on its famous case-study method, in which students debate complex scenarios representing real-world business challenges. That teaching method requires that students come to class steeped in background on the cases and be prepared not just to regurgitate facts, but to offer analysis, critiques, and strategic solutions. Atkinson, the operations director of the executive education program, says it's common for students to have 10 to 15 cases a week, each 30 to 40 pages long, that they need to immerse themselves in.

Generative AI, he says, has helped students to speed up their preparation. While AI can summarize cases, no student can excel in class based on the summaries alone. But AI can ask students questions about a case, and then ask follow-up questions based on the students' answers, and keep probing the students' understanding and approach to the case study. "That just helps to dig a little bit deeper," Atkinson says, "and gets them a little bit better prepared before they turn up for class."

[Al helps students] "dig a little bit deeper, and gets them a little bit better prepared before they turn up for class."

"We've been asking faculty," he says, "When the students have had the opportunity to use some kind of generative AI to prepare, is the discussion richer?" Qualitatively, he says, faculty members' answer is yes.

Georgia Tech's Goel says recent results from his research have shown virtual teaching assistants can make a measurable improvement in classes. Goel started using Jill Watson, a virtual teaching assistant named after IBM's Watson supercomputer, in 2016 in an online computer-science class. He has slowly expanded the use of Jill Watson from the most frequently asked logistical and policy questions to providing more academic support.

He and his colleagues have tried to develop Jill Watson to pay more attention to the context of questions, to better answer morenuanced questions, and to improve the accuracy of its answers. He now works with a version of Jill Watson that restricts what is taught to instructor-approved materials — books, slides, video transcripts. Those limits and new programming methods have cut down drastically on hallucinations, he says, although he acknowledges the assistant can still make mistakes.

Now he is measuring the impact of Jill Watson's use. Not surprisingly, in classes with virtual teaching assistants, Goel's students perceive a higher "teaching presence." And even though students in classes with Jill Watson don't have any more contact with other students than in regular classes, Goel says they perceive more contact with other students, or "social presence."

He ran a methodically created experiment with two classes, one that used the virtual teaching assistant and one that didn't. The students in the class with access to Jill Watson had slightly better grades, with more A's, fewer C's, and about the same number of B's. He also found that the use of Jill Watson produces a slight but measurable improvement in retention, which is important as the dropout rate is high in online courses. "As far as I know," he says, "this is the first time that we're seeing measurable impact of these virtual teaching assistants in ways we can support with evidence and data."



Changing How Colleges Talk to Students





hen the *Chronicle* survey asked if faculty members and administrators knew if their college had used generative AI to create content for students, the most striking response was one of uncertainty. Seventythree percent of administrators and 49 percent of faculty members weren't sure.





Most institutions are using generative AI in communication with students without any guidelines for such use: 63 percent of administrators responding to the survey said their college had no guidelines.



Among those with guidelines, 70 percent said they were helpful but needed more clarification.



Faculty members also stressed the need to educate students about the use of AI in communications. Eighty-eight percent of faculty members indicated in the *Chronicle* survey that students should graduate with a basic knowledge of AI ethics and literacy as they relate to communications.

How much do you agree with this statement? "My college or university should ensure that all students graduate with basic knowledge of AI ethics and literacy related to communications tools and strategies."



At Texas Christian University's College of Education, Dom McShan, manager of strategic communication and marketing, says he has to fight

Al offers "significant opportunities to increase efficiency when it comes to the speed of business and being able to cater messaging in very specific ways." a decline in interest in teaching as a profession when he is recruiting students. AI, he says, offers "significant opportunities to increase efficiency when it comes to the speed of business and being able to cater messaging in very specific ways." For example, he might want to reach out to undergraduates who have attended the College of Education's career-oriented events with carefully crafted followup messages to recruit them for the college's graduate-degree programs. Some of those students may be interested in educational leadership, some in counseling, some in youth advocacy, and some in special education.

At this point, he says, the AI platform he uses is familiar with the College of Education's brand guide, its "points of pride," academic programs, who the college's dean is, the preferred messaging tone, and many other factors. AI, he says, has become a knowledgeable assistant that can quickly produce first drafts of messages and save him hours of brainstorming.

At the University of Richmond, Tom Addonizio, vice president for university communications and chief marketing officer, has a comfort level with technology that stems from 20 years in the IT industry before he worked in higher education. He is leveraging generative AI to create an engine for universitywide communications. Although the University of Richmond is a small institution, with enrollment of about 3,800, it spans five schools, including law, business, and leadership, creating a broad set of marketing challenges. Addonizio

has built a database of facts about the university and its branding pillars: academic access, belonging, access and affordability, well-being, and experiential learning. He has stirred in the president's messaging of the institution being "relentlessly welcoming." On top of all that information sits a generative-AI engine that can tailor messages of different types to different audiences: students, students' parents, alumni, and prospective students.

Any office in the university can use this tool, but he encourages its use just as a starting point. "We don't force it on people," he says. And, "there's always a human editor."



CONCLUSION

hat artificial intelligence will shape higher education going forward is clear, but how it will do so is less certain. Institutions with guidelines on AI use acknowledge they have to revisit them regularly, perhaps even quarterly, to keep up. Faculty and staff members fear AI will become an excuse to further trim an already-stressed work force. Colleges know they need to produce AI-savvy graduates, but what that means, particularly when it comes to employer needs, is murky.

At Carnegie Mellon, Lovett says she wants students to understand that using AI is "just a new version of the same critical-thinking skills, where they're able to take the output that they have judiciously garnered from the tool and assess its validity, accuracy, and so forth so that they're really feeling empowered to not just use the tool and pass off the output, but to be the human in the loop."

College leaders say it's easy to get lost in the details of AI technology and lose sight of the goals. When it comes to considering AI, says Georgia Tech's Goel, "the world should be interested in improving the human experience and improving the human condition. If we are just using artificial intelligence without having a measurable impact, then that use is not very interesting." If impact is fuzzy for now, the pace of adoption is clear. At the University of Richmond, for example, Addonizio says a survey of students last year found that 70 percent of them were using some form of AI. This year that proportion jumped to 91 percent.

"There's no stopping this," says Stan Waddell, vice president for information technology and chief information officer at Carnegie Mellon University. "This is something we are going to use as a society moving forward, and I think it's important for us to recognize that and figure out how we best educate students on how to use these tools without forestalling the opportunity for learning." *The Chronicle* conducted a nationwide survey between August 15 and September 3, 2024, among administrators and faculty members, who had to be employed at a two- or four-year college in the United States. The seven-minute online survey had 841 respondents: 407 academic and administrative leaders and 434 faculty members.



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