

SEATTLE — The last time Bill Gates played an active role at Microsoft, as chief software architect, he witnessed the company muffing its earliest efforts to become a major player in search, smartphones and tablet computers.

In the six years since then, he has watched as the technology industry changed without him. The personal computer era that Microsoft so ably dominated during and after Mr. Gates's heyday as Microsoft's chief executive has started to fade away. Now, the focus is on social media and mobile devices that run in large part on cloud computing.

And what technologies has Mr. Gates, who turned to philanthropy, been most vocal about during all that change? Things like self-contained toilets and vaccines.

"I am a little obsessed with fertilizer," reads the first sentence of a column he wrote for a recent issue of *Wired*, the technology magazine.

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Still, on Tuesday, Microsoft said that Mr. Gates was returning to the company as a product and technology adviser to Satya Nadella, the company's new chief executive. And that raised obvious questions about how helpful Mr. Gates, 58, can be to Microsoft in a new generation of technology.

Launch media viewer

Bill Gates in 1995. He has been immersed in charitable work, but people close to him say he retains a passion for technology. Gary Stewart/Associated Press

At least one thing is clear: Although Mr. Gates has spent most of his time for the last several years working on his charitable foundation, trying to eradicate polio and reduce hunger, he has not lost his passion for technology.

Four to six times a year, said a person close to him, Mr. Gates has received briefings on technology from Microsoft managers at his private offices in Kirkland, Wash., not far from Microsoft's headquarters. These "demo days," as they are called, typically last from four hours to half a day and feature products from Microsoft and its competitors, said this person, who spoke on the condition of anonymity to protect his relationship with Mr. Gates.

The demos are in addition to the regular briefings Mr. Gates has received about Microsoft technology since he began devoting full-time energy toward his philanthropy. These shorter sessions include Microsoft product teams and researchers, whom he quizzes about their technology choices. He has also remained close to venture capitalists and is up to speed on early-stage investment trends in technology.

Still, it is difficult to tell whether Mr. Gates's thinking about the mission of Microsoft has changed with a little distance. During his time as chief executive, much of the company's actions were motivated by an overarching impulse to protect Windows, its PC operating

system and the root of its biggest profits. The company spent years in court battling antitrust suits over its efforts to squelch competitive products using Windows.

Inside the company, the strong protection of Windows sometimes hurt the development of new technologies, and it also weakened the company's influence among outside developers who have shifted their energies to other devices and forms of programming.

Path to Today's Microsoft

Bill Gates dropped out of Harvard to write software in the 1970s. The success of that venture, now called Microsoft, has since made him a billionaire many times over.

Late 1960s

Mr. Gates attends Lakeside School in Seattle, which has a Teletype connection to a computer upon which he could learn to program — unusual for schools in the late 1960s and early '70s. He meets Paul Allen there.

After 2000, when Steven A. Ballmer took over as chief executive and Mr. Gates became chief software architect — he remained chairman, too, until Tuesday — Microsoft missed more opportunities. It didn't appreciate early enough the big investments required to make a search engine competitive with Google, and it discounted a big shift in smartphones heralded by the first iPhone. One of the last big products Mr. Gates worked on closely, Windows Vista, was scorned by critics for early technical problems.

It is unclear whether Mr. Gates and Mr. Nadella are prepared to unshackle Microsoft from its Windows past. One possibility, suggested in a research report on Tuesday, would be to more aggressively develop mobile versions of the company's Office software, without favoring Windows. Microsoft has already said it is developing a version of Office for the iPad, though it hasn't announced a release date.

“We think it is a positive from a product perspective to have Mr. Gates help think through the repositioning of the business, recognizing the PC is no longer the driver of growth and there is a need to rethink the strategic direction of the business with an open mind for change,” Rick Sherlund, an analyst at Nomura Securities, wrote in the research report.

As Microsoft describes it, Mr. Gates will be involved in any rethinking of strategy while under Mr. Nadella. And that, some former Microsoft employees say, is where he is at his best.

“Unlike almost anyone I've ever met, Bill has the ability to quickly wrap his head around an extremely complex landscape that will include much more than just product features,” Gary Flake, a former Microsoft researcher, wrote in an email.

And Mr. Flake said that Mr. Gates's extensive world travels over the last six years — and a little distance from the company — could help him bring a new perspective.

“I expect that any tunnel vision that he may have had prior to leaving full-time status is now completely replaced with a new appreciation for how others view the world and what is really important to them,” Mr. Flake wrote.