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Maya: Good morning, and welcome to the Morning Science Briefing. It is Wednesday, September thirtieth, twenty twenty-six. I am Maya.

Devon: And I am Devon. We have a packed show today, from ancient microbes that crawl like animals to a molecule nobody has ever caught around a dying star.

Maya: Plus, new data on a weight loss drug that seems to quiet the brain's cravings, and our daily space weather check, because there is a storm watch in effect for later this week. Let us start with the very small.

Devon: Scientists have watched a group of ancient microbes do something nobody expected. They crawl.

Maya: The microbes are called Asgard archaea, single-celled organisms that live in oxygen-free environments, and they are some of our most distant known relatives. A team led by Christa Schleper filmed them extending dynamic protrusions and pulling themselves along, a kind of crawling movement driven by an actin-based cytoskeleton.

Devon: That matters because actin is the same cellular machinery that controls shape and movement in human cells. Until now, this kind of complex movement was thought to belong to much more advanced cells.

Maya: The findings were published in Nature, and they suggest complex cell movement is far older than previously thought. They may even shed light on the ancient symbiosis that eventually gave rise to mitochondria, the powerhouses inside our own cells.

Devon: And the team did it with oxygen-free live-cell microscopy, which means researchers can now test models of how complex life began in the lab, for the first time.

Maya: From the ancient Earth to deep space. Astronomers have made the first secure detection of the methyl radical around a dying star.

Devon: The methyl radical is a molecule made of one carbon atom and three hydrogen atoms, with an unpaired electron that makes it extremely reactive and short-lived. Catching one in space is rare.

Maya: The detection came from NASA's James Webb Space Telescope, and the research was led by an international team including scientists from the Institute of Astrophysics of the Canary Islands. The star, designated S M P L M C zero one one, sits in the Large Magellanic Cloud, a small galaxy orbiting our Milky Way. It is carbon rich and nearing the end of its life, wrapped in gas and dust it shed over billions of years.

Devon: Finding methyl there helps astronomers understand the chemistry of dying stars, which seed the universe with the raw materials for new stars, planets, and eventually life.

Maya: Staying with the sun, a balloon-borne observatory has mapped the magnetic skeleton of our star in unprecedented detail.

Devon: The mission is called Sunrise Three. It carries a one-meter telescope floating in

clues about how energy travels upward from the solar surface to heat the atmosphere, one of the longest standing puzzles in solar physics.

Maya: Now to medicine. Novo Nordisk presented new data at the European Study of Diabetes meeting on CagriSema, its investigational drug for type two diabetes, and the findings go beyond the scale.

Devon: In a fifty-two week study using functional M R I brain scans, the how the brains of adults with overweight or obesity responded to temporary foods, in regions linked to cravings, reward, and self-control. Patients reported food noise, less hunger, and better craving control.

Maya: The weight loss was striking too, a twenty-two point four percent body weight versus placebo at fifty-two weeks. And in adults with type two drug reduced harmful fat around the liver and pancreas, while early findings bone health was maintained despite the substantial weight loss.

Devon: These are company-reported results presented at a conference, review is still to come, but they suggest the drug may act on the brain's obesity, not just appetite.

Maya: More cancer news, this time from a randomized trial. The Alliance for Trials in Oncology reported that fractionated radiosurgery after surgery for metastases beat single-session treatment.

Devon: The trial enrolled two hundred forty-two patients with one to four metastases, at least one larger than two centimeters. At one year, eighty percent of patients who got fractionated treatment across three to five sessions had no recurrence at the surgical site, compared with eighty-one percent with a single session.

Maya: Median overall survival was twenty-nine months versus twenty months for fractionated treatment was linked to a thirty-one percent lower risk of death. No significant difference in side effects.

Devon: And now our daily space weather check, from NOAA's Space Weather Center.

Maya: Solar activity is low right now. The sun has three active regions, but only a slight chance of M class flares over the next few days. But there is a small effect.

Devon: A large filament erupted from the sun on September twenty-eight, sending a coronal mass ejection into space at about five hundred kilometers per second. It is headed wide of Earth, but forecasters expect a glancing blow on October one.

Maya: NOAA has issued a G one, or minor, geomagnetic storm watch for the next few days. The greatest observed K P index in the past day was just two, well below storm levels. It could climb to nearly five on Friday.

Devon: If the storm materializes, auroras could dip into the northern tier of the United States, places like northern Michigan and Maine. Minor power grid fluctuations and satellite impacts are possible, though at G one the effects stay modest.

Maya: Solar radiation levels are normal, and the chance of radio blackouts is low.