STORY BY ERICA NAONE
ART BY TOMER AND ASAF HANUKA

MISSION TO MARS

A TRUE STORY

AUGUST 21, 1993

THE MARS OBSERVER IS THREE DAYS AWAY FROM ENTERING MARS ORBIT. BASED ON A COMMERCIAL EARTH-ORBITING COMMUNICATIONS SATELLITE, THE OBSERVER IS THE FIRST CRAFT TO VISIT MARS SINCE THE VIKINGS IN THE 1970S. ITS $813 MILLION MISSION IS TO UNLOCK THE SECRETS OF THE RED PLANET'S SURFACE, ITS MAGNETIC AND GRAVITATIONAL FIELDS, AND ITS CLIMATE.

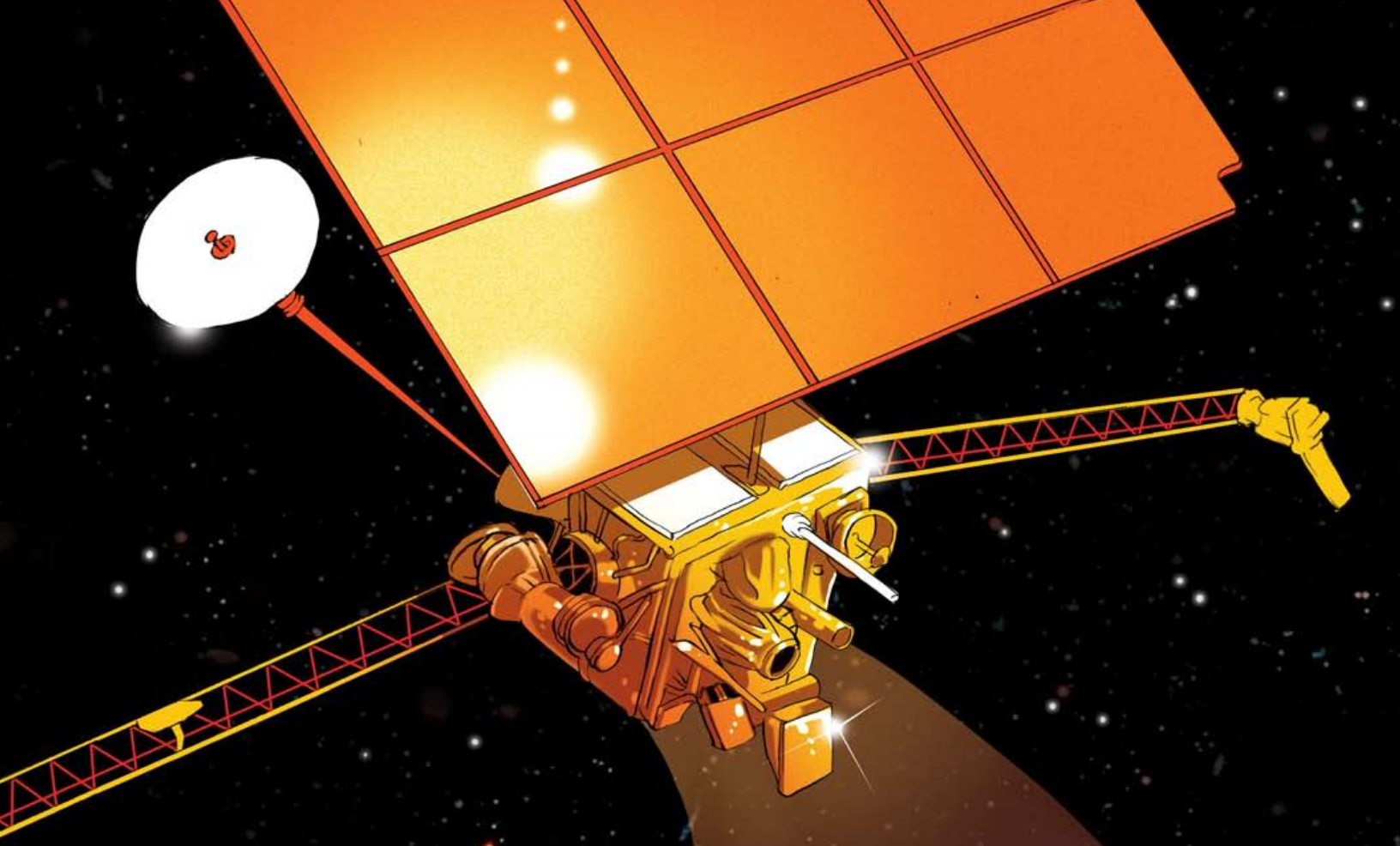
SUNDAY, AUGUST 22, 8:30 A.M.

DANIEL MCCLEESE, PRINCIPAL INVESTIGATOR, PRESSURE MODULATOR INFRARED RADIOMETER (PMIRR), MARS OBSERVER

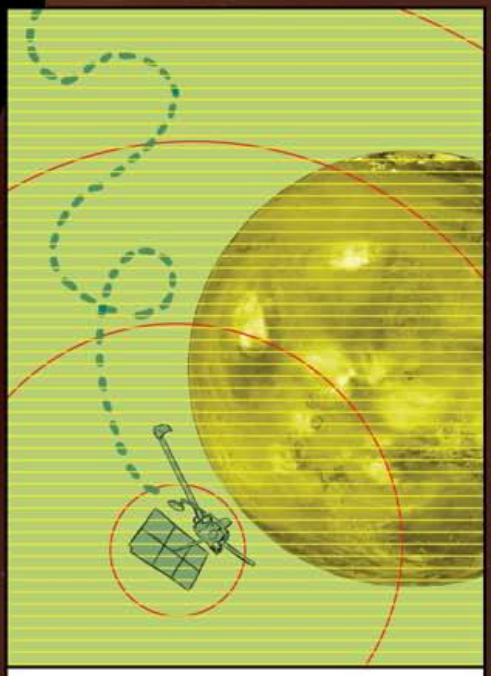
AUGUST 24

THE SCIENTISTS GATHER AT THE JET PROPULSION LABORATORY TO WAIT FOR OBSERVER TO SIGNAL THAT IT HAS ENTERED MARTIAN ORBIT. THEY HAVE VERY LITTLE HOPE.

SOME OF THE SCIENTISTS HAVE BEEN WORKING ON THE MARS OBSERVER SINCE THE EARLY 1980S.



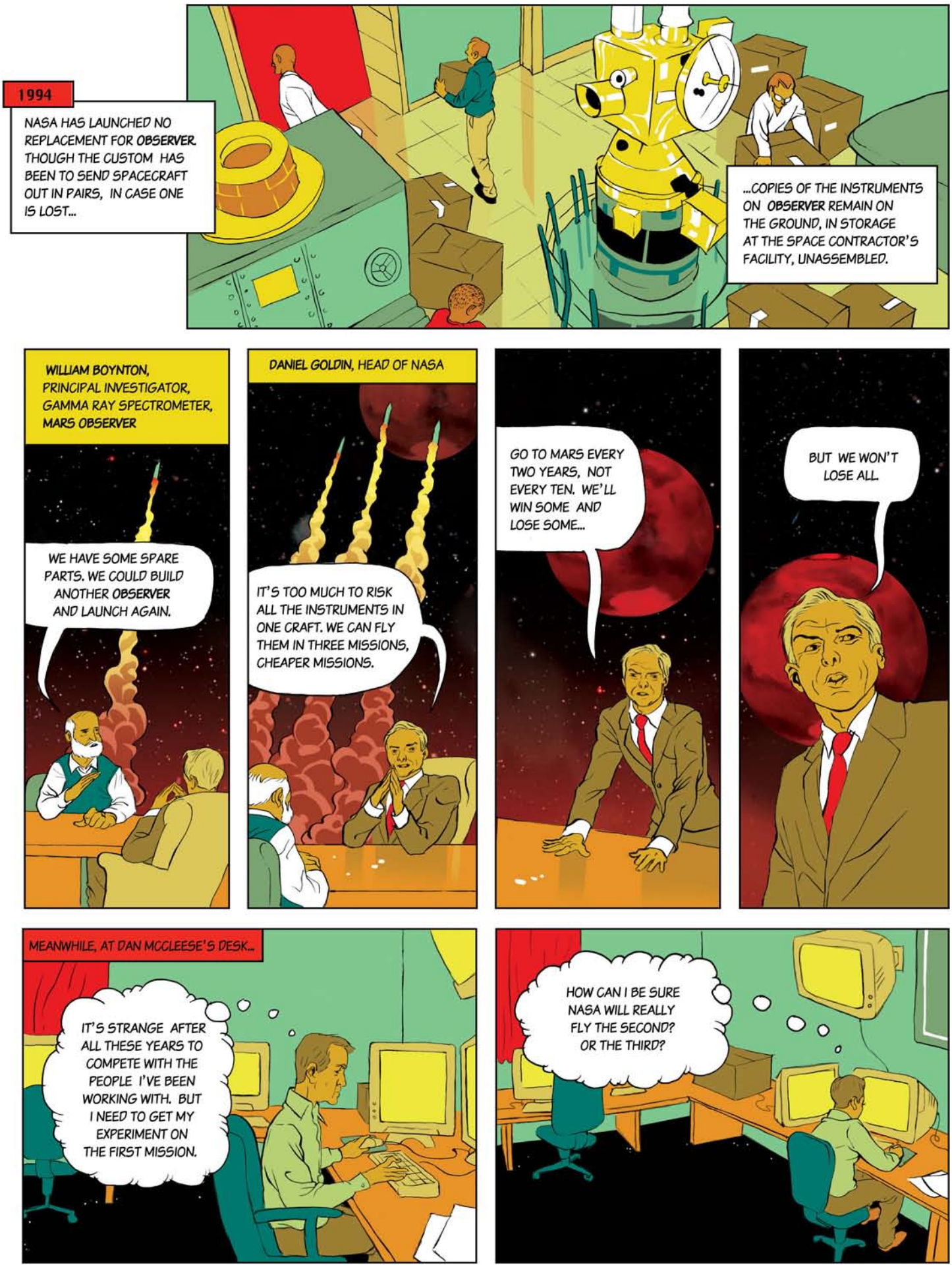
MORE THAN 170 HUMAN-YEARS OF LABOR WENT INTO THE DESIGN AND CONSTRUCTION OF JUST THE THERMAL EMISSION SPECTROMETER, AN INSTRUMENT DESIGNED TO STUDY THE COMPOSITION OF ROCKS AND MINERALS ON THE MARTIAN SURFACE.

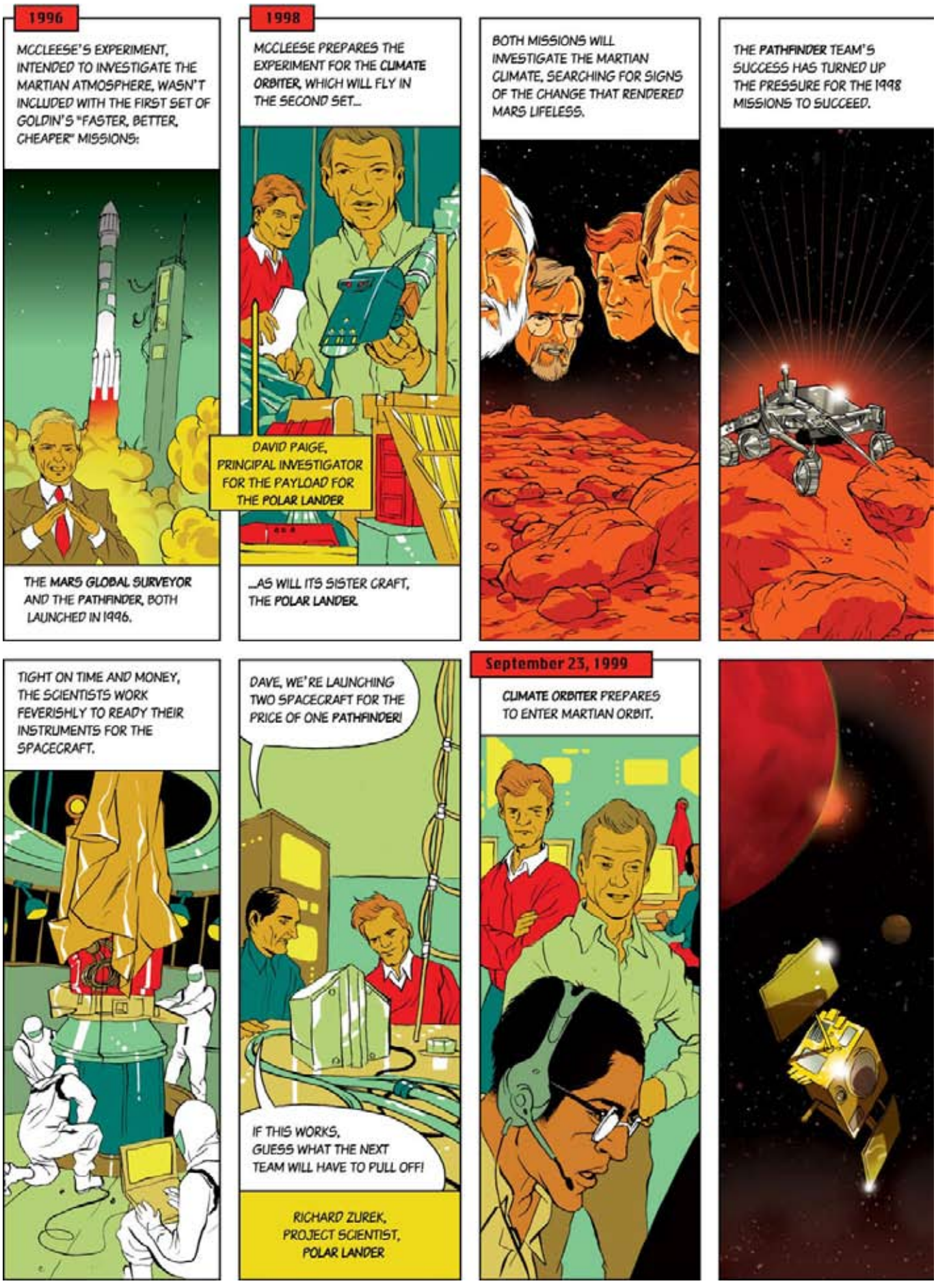


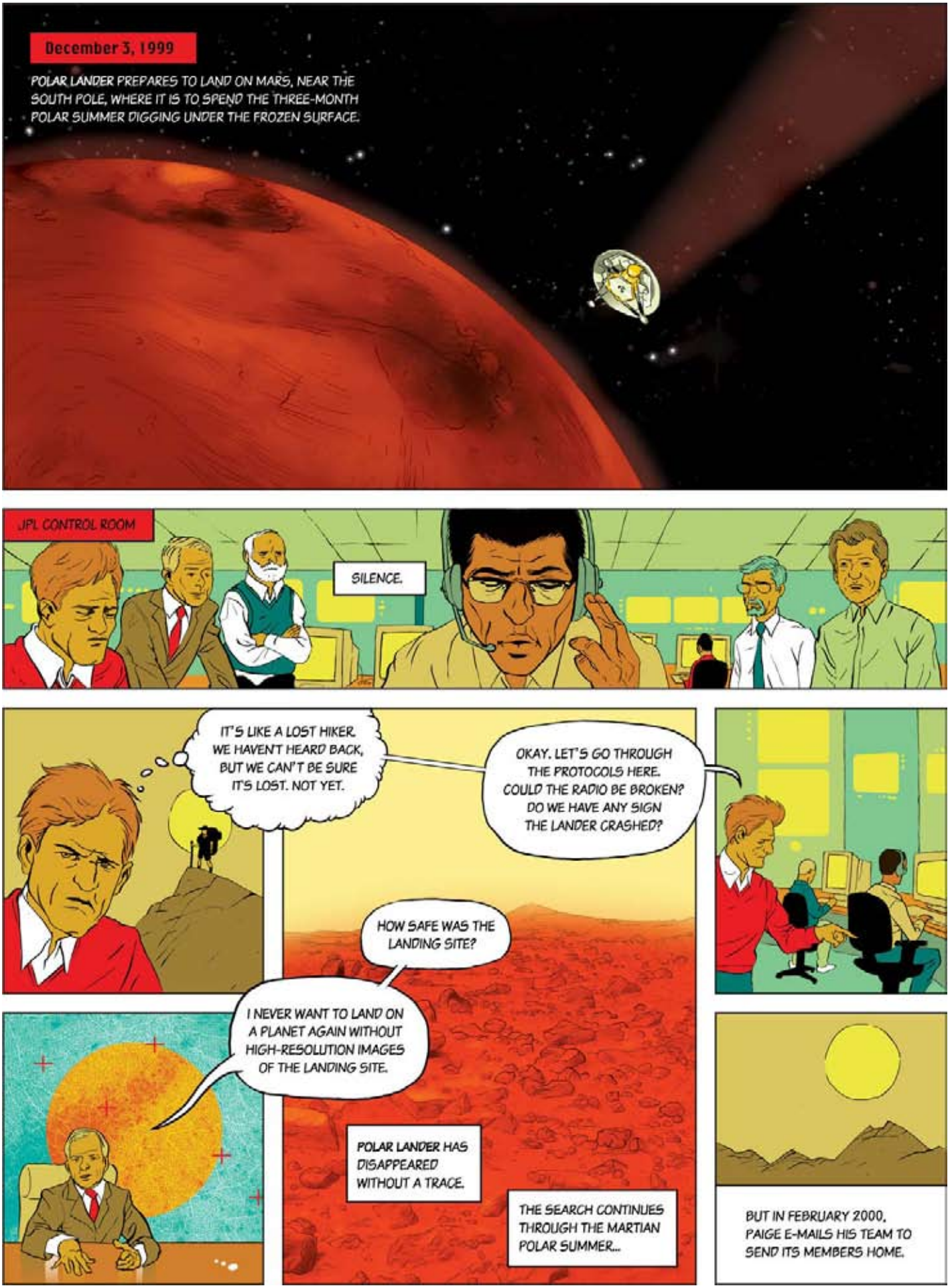
MOST LIKELY, THE **OBSERVER**'S FUEL LINES HAVE RUPTURED.

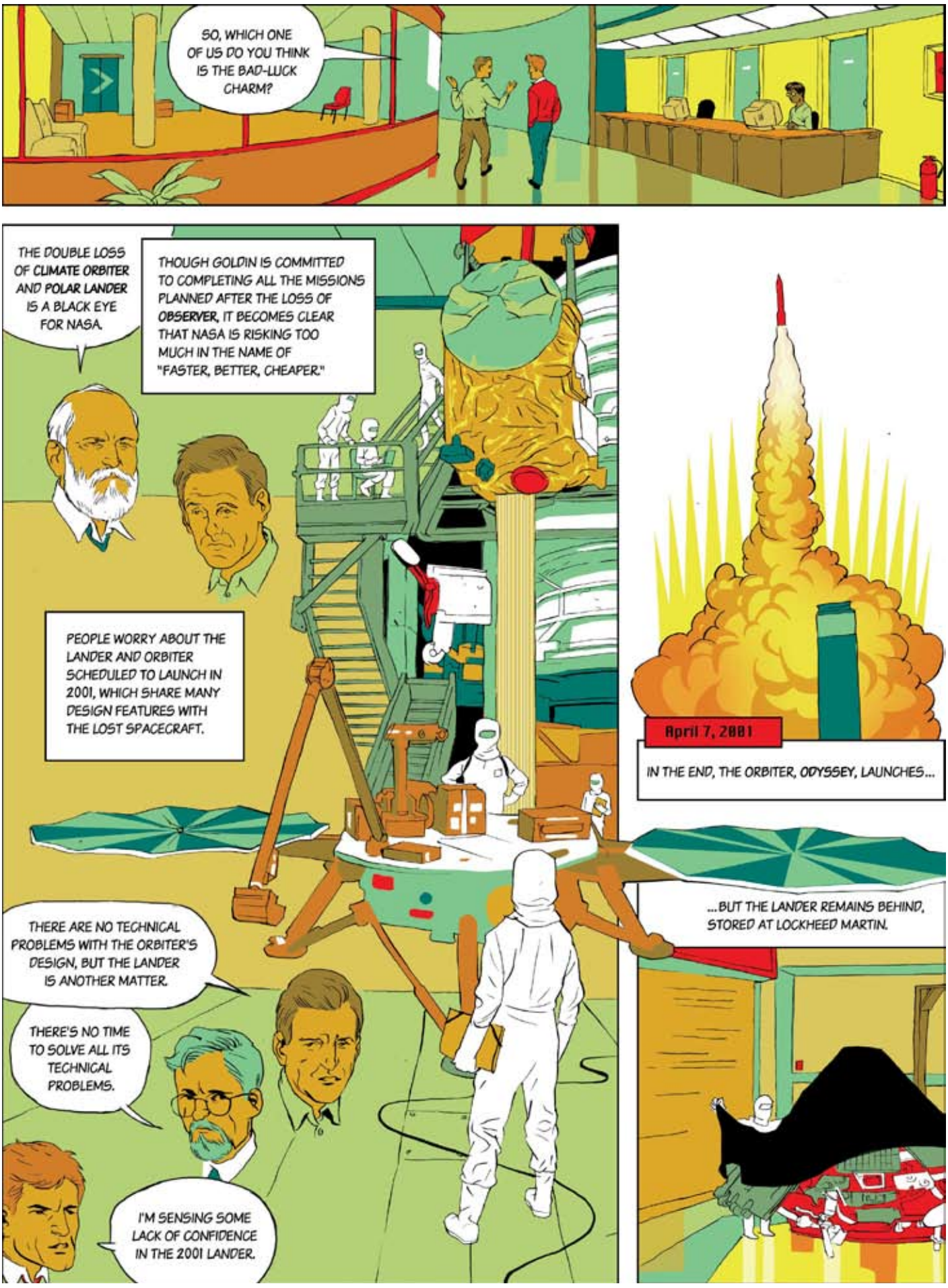
THERE IS NO WAY TO KNOW FOR SURE. THE SCIENTISTS SEARCH FOR SIGNS THAT THE SPACECRAFT WENT INTO ORBIT AROUND MARS, OR EVEN THE SUN.

THEY FIND NOTHING.





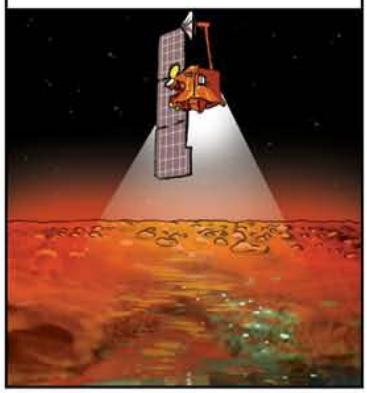




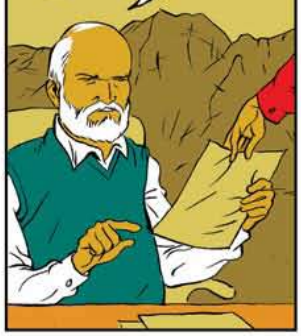
2002

BOYNTON IS PRINCIPAL INVESTIGATOR FOR ODYSSEY'S GAMMA RAY SPECTROMETER EXPERIMENT, WHICH HE FIRST TRIED TO RUN ON THE OBSERVER.

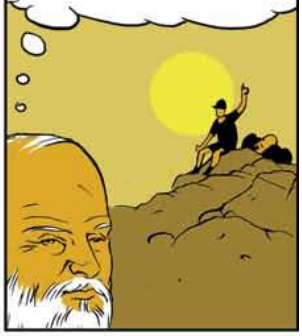
THE INSTRUMENT SEARCHES FOR EVIDENCE OF WATER AND ICE IN MARTIAN SOIL.



SO MUCH HYDROGEN. THIS COULD MEAN HUGE QUANTITIES OF ICE.

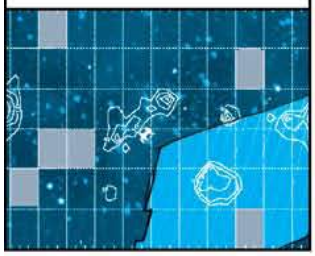


AFTER ALL THESE DISAPPOINTMENTS, IT'S HARD TO DESCRIBE WHAT IT'S LIKE TO GET DATA. THE JOY MORE THAN MAKES UP FOR THE LOSSES.



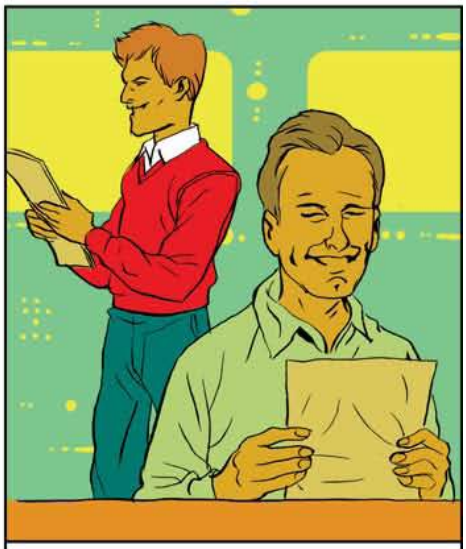
March 10, 2006

PAIGE, MCCLEESE, AND ZUREK HAVE GONE ON TO WORK ON THE MARS RECONNAISSANCE ORBITER, WHICH WILL STUDY THE HISTORY OF WATER ON MARS AND SCOUT FUTURE LANDING SITES.



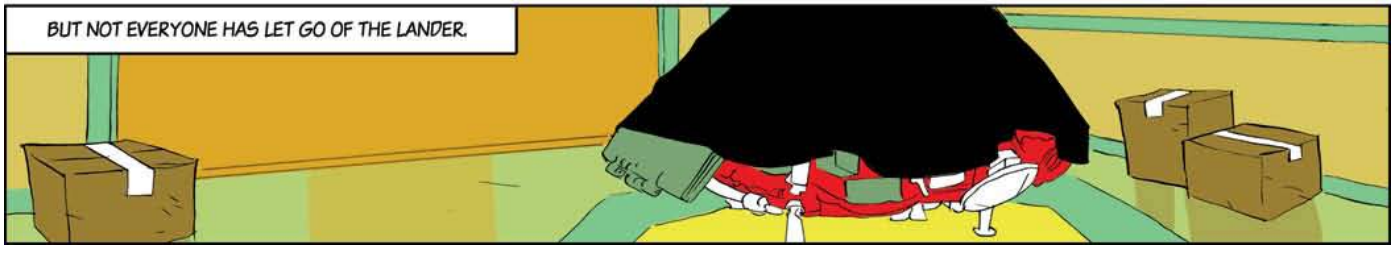
THE SPACECRAFT CARRIES THE CLIMATE SOUNDER, HEIR TO THE PMIRR INSTRUMENTS LOST WITH CLIMATE ORBITER AND OBSERVER.

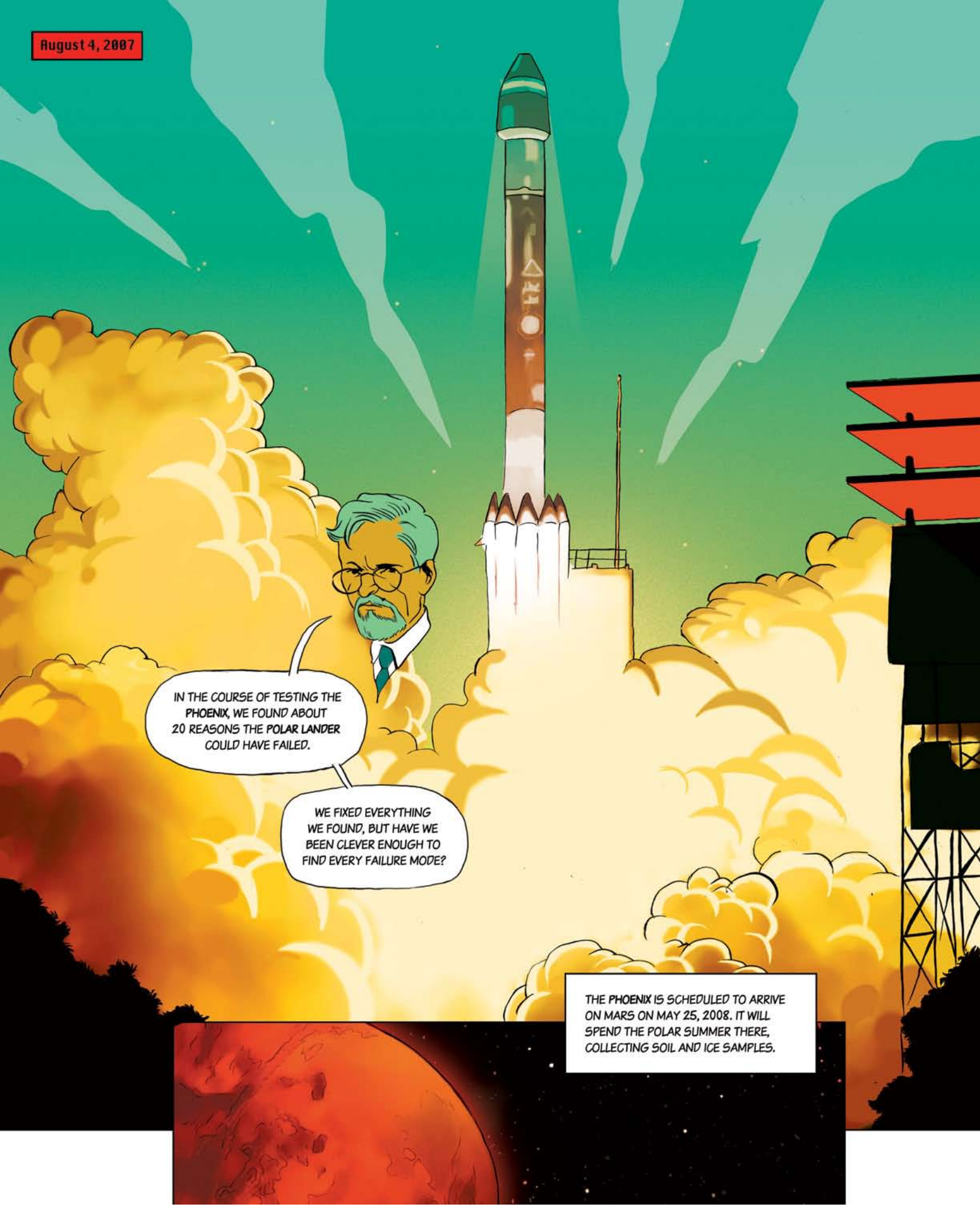
IT SUCCESSFULLY REACHES ORBIT...



...AND THE SCIENTISTS GET DATA TO WORK WITH.

BUT NOT EVERYONE HAS LET GO OF THE LANDER.




August 4, 2007
IN THE COURSE OF TESTING THE PHOENIX, WE FOUND ABOUT 20 REASONS THE POLAR LANDER COULD HAVE FAILED.
WE FIXED EVERYTHING WE FOUND, BUT HAVE WE BEEN CLEVER ENOUGH TO FIND EVERY FAILURE MODE?
THE PHOENIX IS SCHEDULED TO ARRIVE ON MARS ON MAY 25, 2008. IT WILL SPEND THE POLAR SUMMER THERE, COLLECTING SOIL AND ICE SAMPLES.