

HONR269i

To the Moon and Back: The Apollo Program

Discussion Questions

Session 9: The Saturn V

In this session we get the first view of Apollo as a large-scale enterprise. We'll get a second view of that when we study the Kennedy Space Center in the coming weeks. Here we want to focus on the consequences of the infrastructure in the "built world" for the way the Apollo program happened.

1. As we have seen, NASA ran a "Navy" of barges to move Saturn stages, and an "Air Force" of outsized cargo aircraft to move the spacecraft and sometimes to move the third stage. Why were these not moved by road or by railroad? Could they have been? If not, how would Apollo have been different if the Panama Canal had not existed?
2. What kinds of engineering and scientific knowledge were necessary to build a Saturn V? One way to answer this question would be to make a list of academic degrees that you expect would be needed to design, build, test and launch that rocket. Once you have made that list, sort it in an order that indicates which engineering and scientific disciplines are most important (e.g., by indicating which things you expect the people at the Marshall Space Flight Center in Huntsville who were running the program would need to know best).
3. Now do the same for the people at the Manned Spacecraft Center in Houston who were responsible for designing, building and testing, and operating the spacecraft. Again, first make a list of the needed engineering and scientific disciplines, and then sort it (this process is important because brainstorming the contents of a list requires different ways of thinking than sorting the resulting list does). Now compare your two lists – are there differences that suggest that there might be differences in the engineering and scientific culture between the two centers?