

# THOUGHT-PROVOKING QUESTIONS



7-111

- Critical Path Logic — 1. How is .....\*..... actually accomplished or how is it proposed to be accomplished?
- Higher Level Logic — 2. Why must ...\*.... be performed?  
3. What are we really trying to do when we .....\*.....?
- Support Logic — 4. What higher level function caused .....\*..... to come into being?  
5. When is .....\*..... performed?  
6. If .....\*..... is performed, what else must also happen?
- Basic Function Determination Logic — 7. If we didn't have to .....\*....., would we still have to perform the other functions?  
8. When we ....\*..... in the manner conceived, does it cause each apparent dependent function to come into existence?

# FAST

## Diagramming

Created and Developed

by

C. W. BYTHEWAY

V. E. ADMINISTRATOR

UNIVAC SALT LAKE CITY

322 NORTH 2200 WEST

SALT LAKE CITY, UTAH 84116

(801) 328-8066

\* Fill in the blank with the function (verb-noun statement) to be discussed.

"FUNCTIONAL ANALYSIS CORRECTS OUR IGNORANCE FACTOR AND OPENS THE DOOR TO GREATER CREATIVITY".

Compliments of **SPERRY UNIVAC**

# FUNCTIONAL ANALYSIS SYSTEM TECHNIQUE (FAST)

## PROCEDURE

1. List existing or proposed parts, steps or tasks.
2. Identify and list functions performed by each part or performed during each step or task.
3. Select the function you think is the most basic.
4. Start construction of the FAST Diagram by writing this basic function on a small card.
5. Start development of critical path functions by inserting this basic function into the two Critical Path Logic questions (Questions 1 and 2). Record each answer in functional form (verb-noun) on a small card. Place the how answer at the right of the first card and the why answer at its left. Use solid lines to connect critical path functions.
6. Repeat the Critical Path Logic on the two new functions generated during the previous step. Place answers on additional cards as required, locating how answers at the right and why answers at the left. If answers do not agree with previously recorded answers, then replace them with new function cards until the Critical Path Logic is satisfied in both directions.
7. Repeat step 6 until you feel you are out of scope.
8. Expand the critical path by inserting one or more new functions between each existing function wherever possible. Do this by asking Question 1 once again and by recording an answer that doesn't identify the method already positioned at the right of the function in question. Best results are achieved by being very specific or by considering the literal interpretation of each word. Role playing is essential during this step.
9. Determine position of supporting functions on the FAST Diagram by asking Question 5 of all functions not yet positioned. Locate them either above or below the critical path function that takes place at the same time. Use one solid line to connect "When functions" and two or more lines to connect "When functions" once or more removed physically on the diagram.
10. Develop critical path functions for each supporting function positioned during step 9 by applying the Critical Path Logic.
11. Develop additional supporting functions by asking Question 6 of each function positioned on or added to the diagram. Position your verb-noun answers either above or below the function in question. Use dotted lines to show these relationships.
12. Develop critical path functions for each new supporting function.
13. Consider each function not yet positioned on the diagram as a basic function and develop a FAST Diagram for it until a logical connection to the existing diagram has been achieved. Use the three Higher Level Logic questions to aid in making this marriage.
14. Place functions that happen "all of the time" in the upper right hand corner and design objectives in the upper left hand corner of your FAST Diagram.
15. Define your scope of effort by placing two vertical broken lines on the diagram. One to the left of the highest level function you intend investigating and the other to the right of all functions you consider to be within your scope of effort.
16. Check the logic of your diagram by applying the Basic Function Determination Logic to your basic function (highest level function within scope) with respect to all functions within scope. Your diagram checks if Question 7 yields all "no" answers and Question 8 yields all "yes" answers. Each "no" answer to Question 7 causes the other function in question to appear to be dependent. "Yes" answers to Question 8 verifies this dependency.