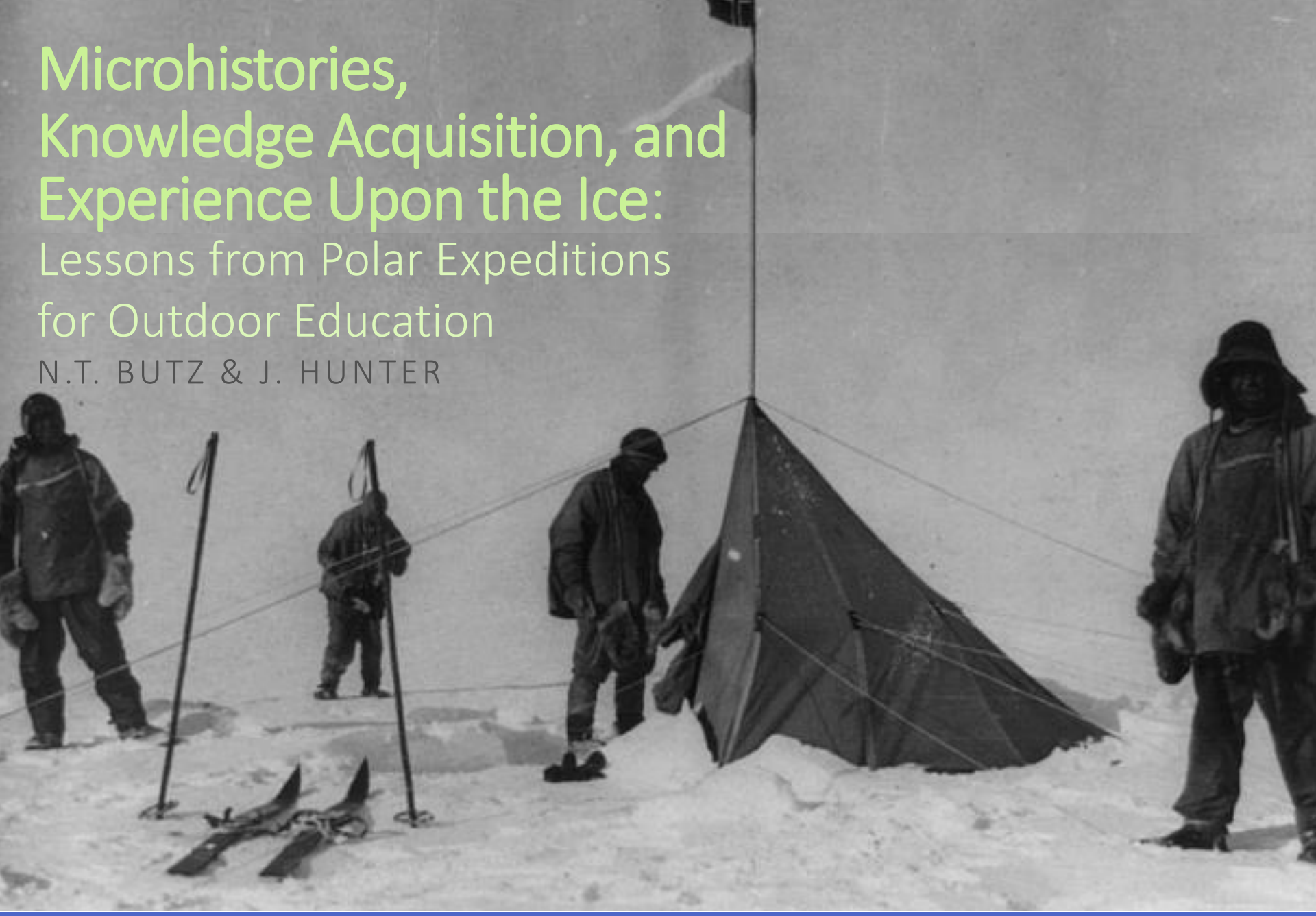
Microhistories, Knowledge Acquisition, and Experience Upon the Ice:

Lessons from Polar Expeditions for Outdoor Education

N.T. BUTZ & J. HUNTER



Learning Objectives

1. Understand how knowledge systems affect performance
2. Apply the systems development approach to a historic example
3. Create a knowledge acquisition plan for an entrepreneurial venture

Lens for Examination

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.

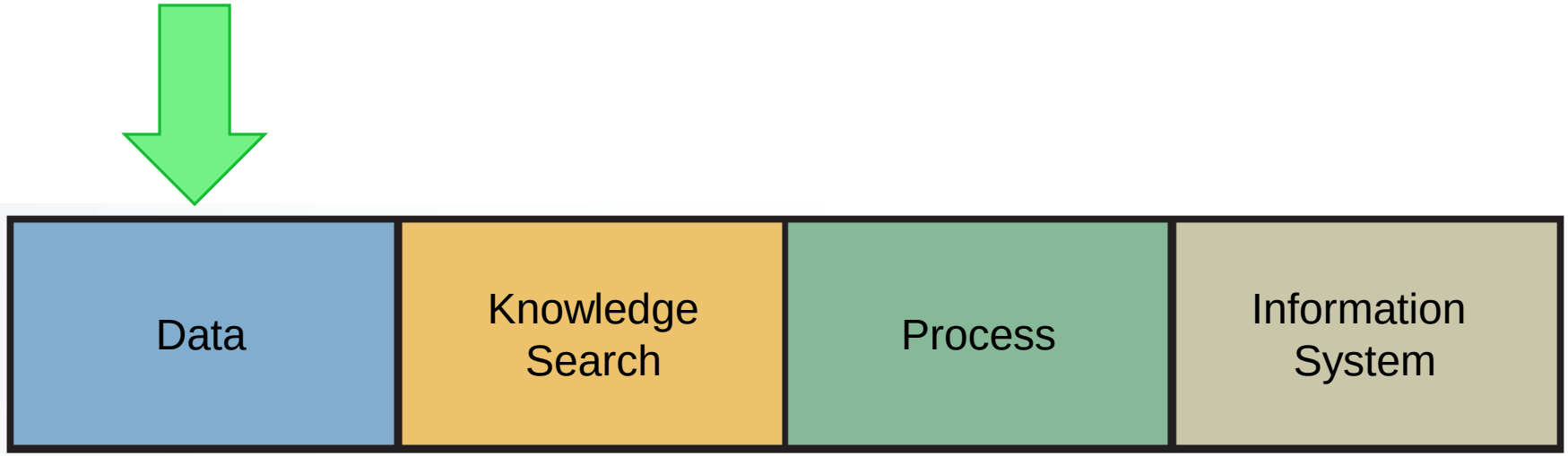
John Dewey

The chief aim is not instruction, but provocation.

Freeman Tilden

Microhistory Interpretation should aim to present a whole rather than a part, and must address itself to the whole process rather than any single phase.

4 Major Components of a Knowledge System



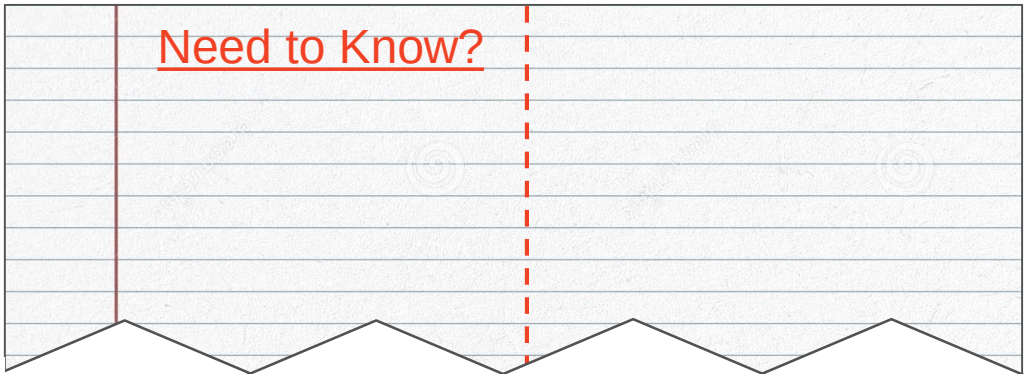
- **Data** - The raw facts that describe the characteristics of an event or object

Your Assignment

- The year is 1912. Your team has been chosen to lead a polar expedition to the South Pole.

Your Assignment (Part 1) Generate *Data*

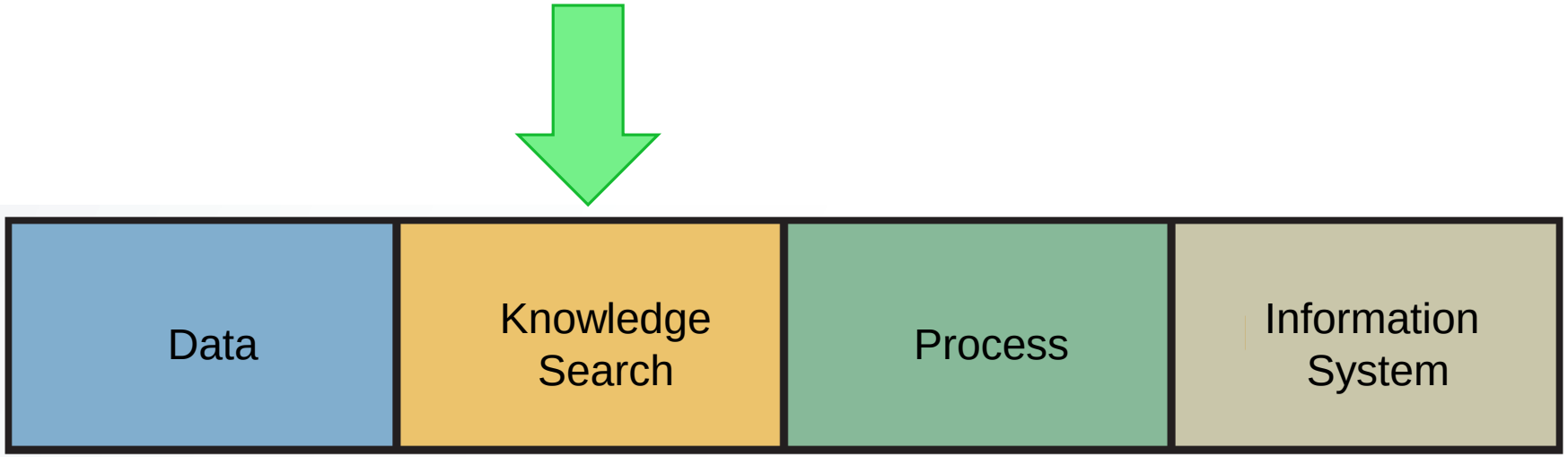
1. Get into your groups
2. Make two columns on a sheet of scratch paper
   a. Label the Left Column: "Need to Know?"
3. In 5 minutes, answer the question:
   What do you need to know to lead this polar expedition?
   List as many factors as possible



Let’s Discuss

#	Need to Know
1	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

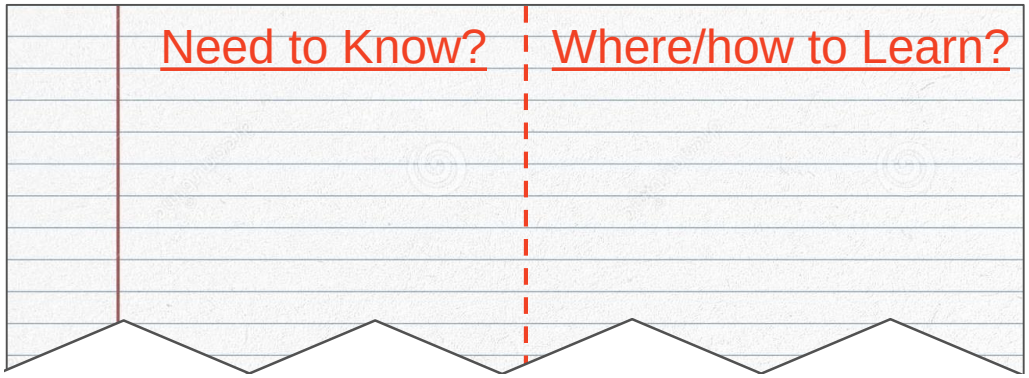
4 Major Components: *Knowledge Search*



- **Knowledge Search** – Collect relevant data, organize it, and find gaps

Your Assignment (Part 2) *Knowledge Search*

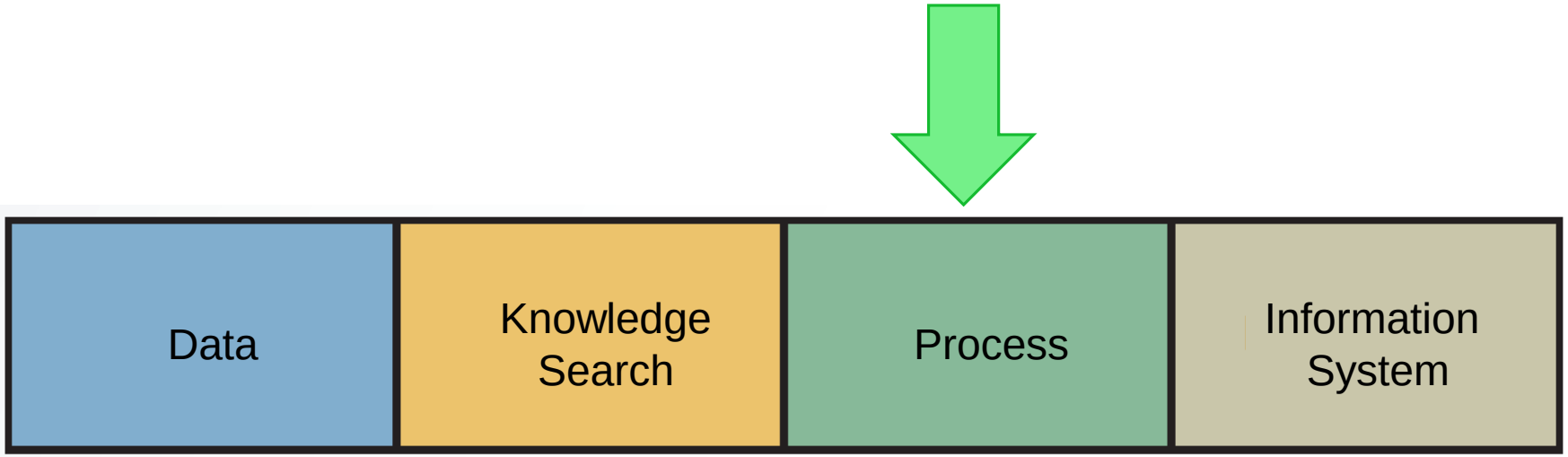
1. Working in your groups, turn your attention to the right column
2. Label the Right Column: "Where/how to Learn?"
3. In 5 minutes, answer the follow question:
   In relation to the factors in the left column, where or how will you go about obtaining the data needed to learn about each factor?



Let’s Discuss

#	Need to Know	Where/how to Learn
1		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

4 Major Components: *Data Processing*



- **Process** – Using systems thinking to generates information for decision making
  - ***Interface***: Models for decisions-analysis are selected and implemented...

Your Assignment (Part 3-A) *Processing* your Data

1. Write the ***Decision Points*** below down the backside of your paper.
2. Using your data from the previous steps to facilitate your discussion, make a decision about how your group will address these ***Decision Points*** on your polar expedition.

Decision Points:

Clothing
Shelter
Transportation
Meals

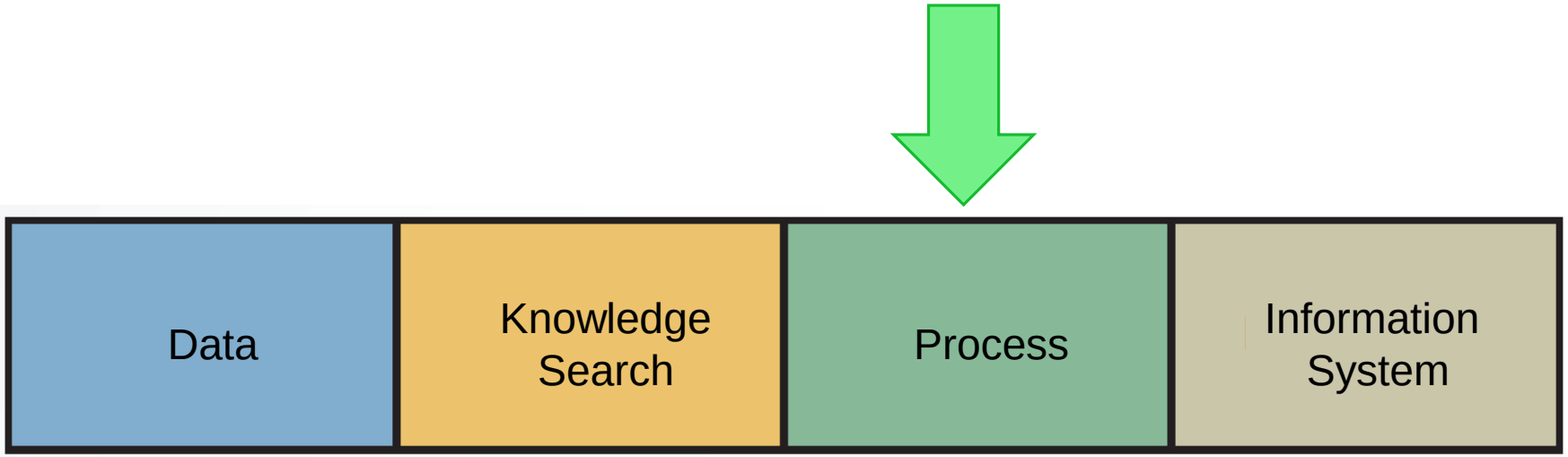
Let's Discuss

- How did your team choose to address these ***Decision Points*** and why?

Decision Points:

Clothing
Shelter
Transportation
Meals

4 Major Components: *Data Processing* (Continued)



- **Process** – Using information systems to generates information for decision making
  - ***Interface***: Models for decisions-analysis are selected and implemented…

    … by individuals who have experience in the field.

Your Assignment (Part 3-B)
Data Processing

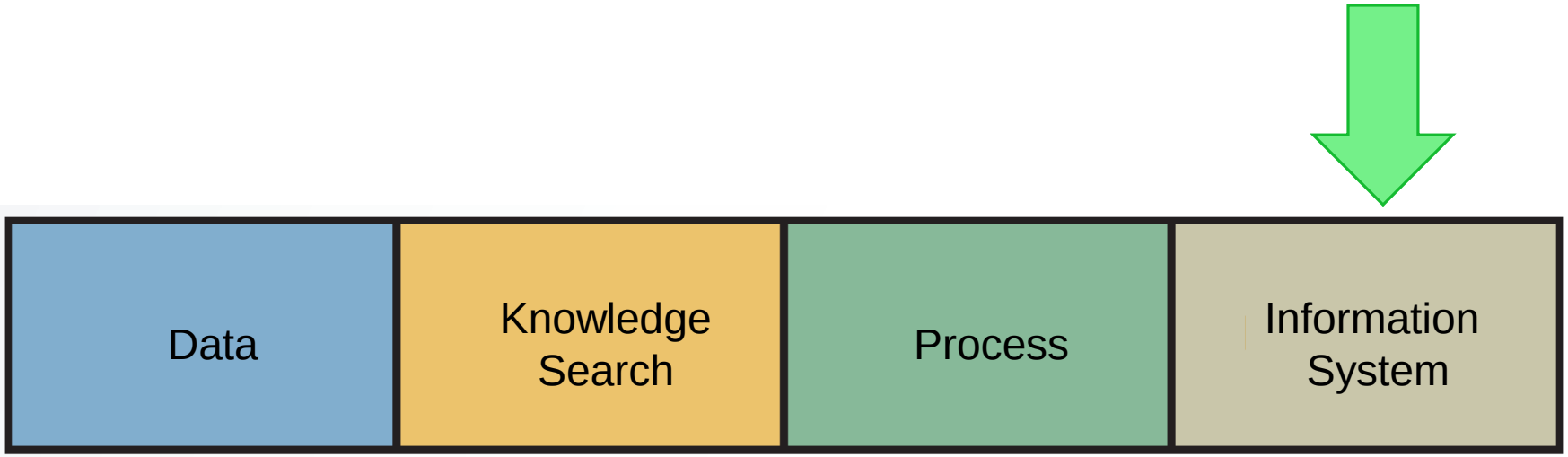
1. In your groups, discuss which team you would prefer to work with to process the polar expedition data you identified. Be prepared to defend your selection.

	RED TEAM	GREEN TEAM
Climate Experience	First time in Antarctica	Previous Antarctica experience
Construction Skills	Ice carving	Metal and wood assembly
Locomotion Knowledge	Dog training	Combustion engines
Technology Preference	Reliance on older, previously tested technologies	Prefers using the newest available technology

Let’s Discuss

- Which team did you choose and why?

4 Major Components: *Resulting Information*



- **Information** – The output of an information system
  - ***Deliverable:*** Facts that have been analyzed by the process component
    - Provides a base for users to explore different options or decision points

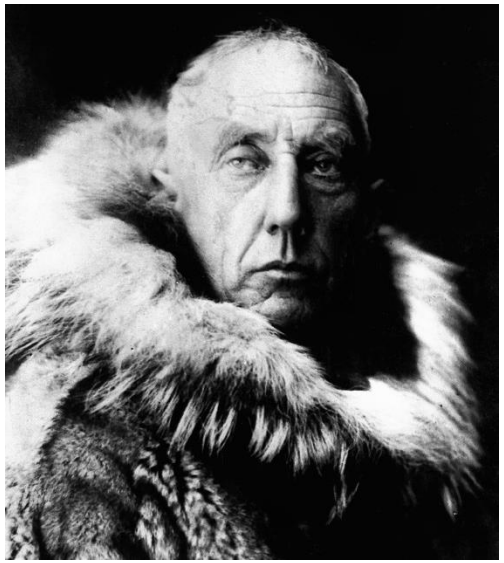
Your Assignment (Part 4) Examining the *Information*

- Consider the ***Decision Point*** (i.e., Output) Information below
  a. How closely does your team's original decisions (clothing, shelter, transportation, and food) align with that of your chosen expert?
  b. Do you agree or disagree with the decisions of your chosen expert?
     - You can stay with your expert, switch experts, or use your original choices.

Knowledge Area	Decision Point	RED TEAM	GREEN TEAM
Climate Experience	**Clothing**	Fur clothing worn loosely	Wool clothing and windproof tunics
Construction Skills	**Shelter**	Construction of ice caves	Assembling material huts
Locomotion Knowledge	**Transportation**	Dog sleds	Motor sleds and man hauling
Technology Preference	**Meals**	Seal / penguin meat and fat, pemmican	Tea, biscuits, and preserves

Epilogue

RED TEAM



- Roald Amundsen (Norwegian)

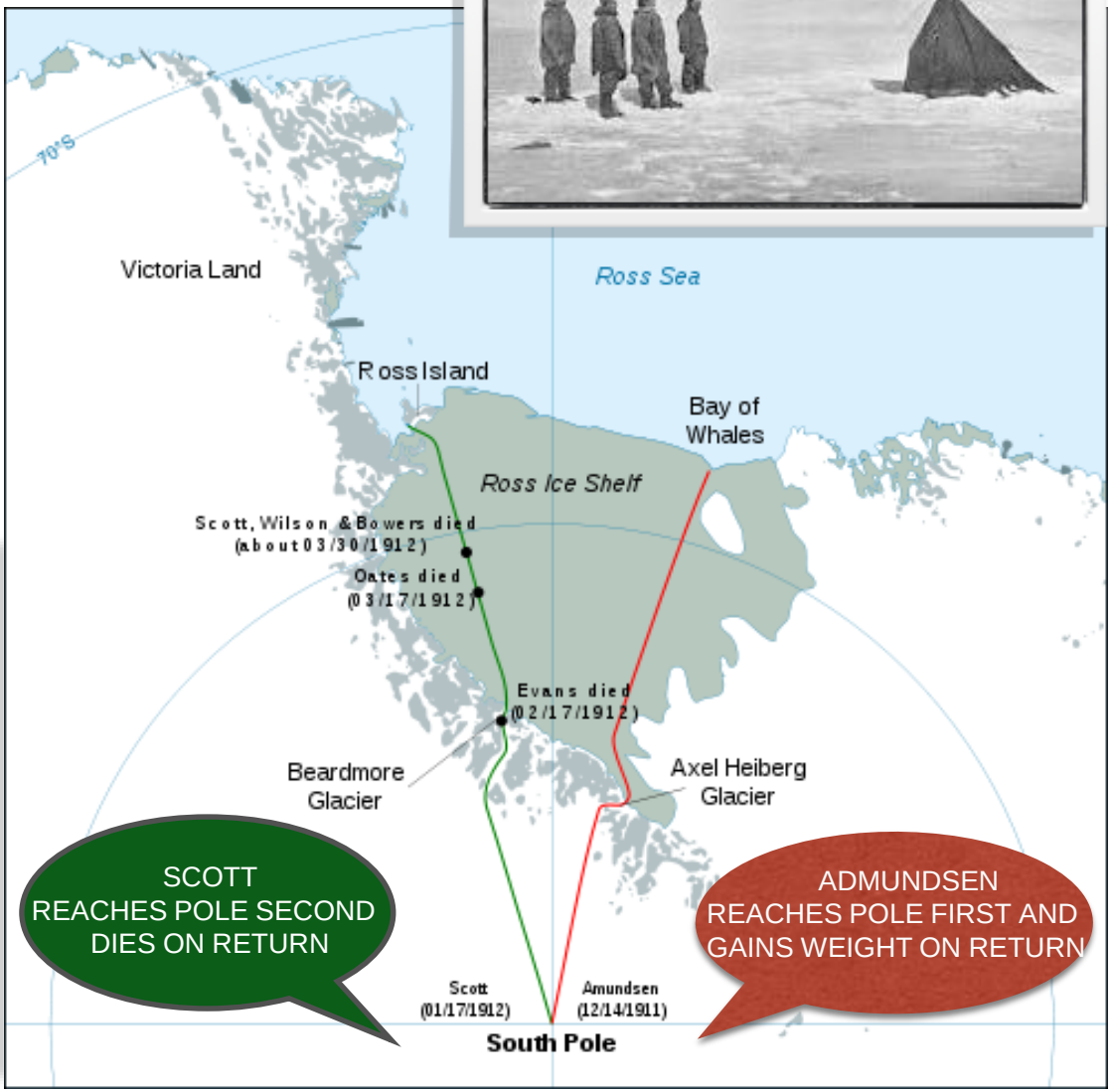
GREEN TEAM

- Robert Falcon Scott (Englishman)

Epilogue

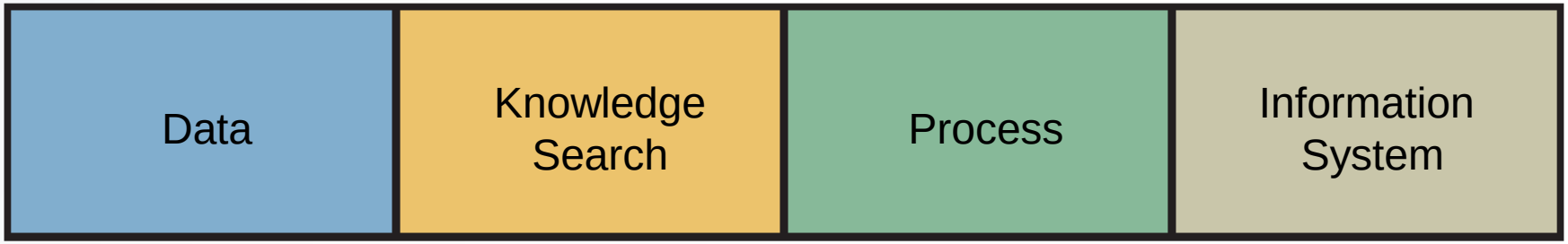

Scott
Scott Polar Research Institute http://www.spri.cam.ac.uk/


Amundsen


70°S
Victoria Land
Ross Sea
Ross Island
Bay of Whales
Ross Ice Shelf
Scott, Wilson & Bowers died (about 03/30/1912)
Oates died (03/17/1912)
Evans died (02/17/1912)
Beardmore Glacier
Axel Heiberg Glacier
SCOTT REACHES POLE SECOND DIES ON RETURN
ADMUNDSEN REACHES POLE FIRST AND GAINS WEIGHT ON RETURN
Scott (01/17/1912)
Amundsen (12/14/1911)
South Pole

Let's Discuss

- What did we learn about Information Systems?



1. Operates in a series of **well-defined phases** performed in sequence
2. Serves as a **framework for system/project development**
3. Each phase's **output becomes the input for the next phase**

One Step Further

- Have you ever thought of starting your own business?
- What should you know before you decided to invest?
- Create a knowledge acquisition plan for an entrepreneurial venture of your choice

My Research on Polar Expeditions

Schultz, P. L., Vitton, J. J., & Butz, N. T. (2015). The race to the South Pole: Lessons in problem solving, planning, and teamwork. *Journal of Critical Incidents, 8*, 120-123.

Learning Objectives Revisited

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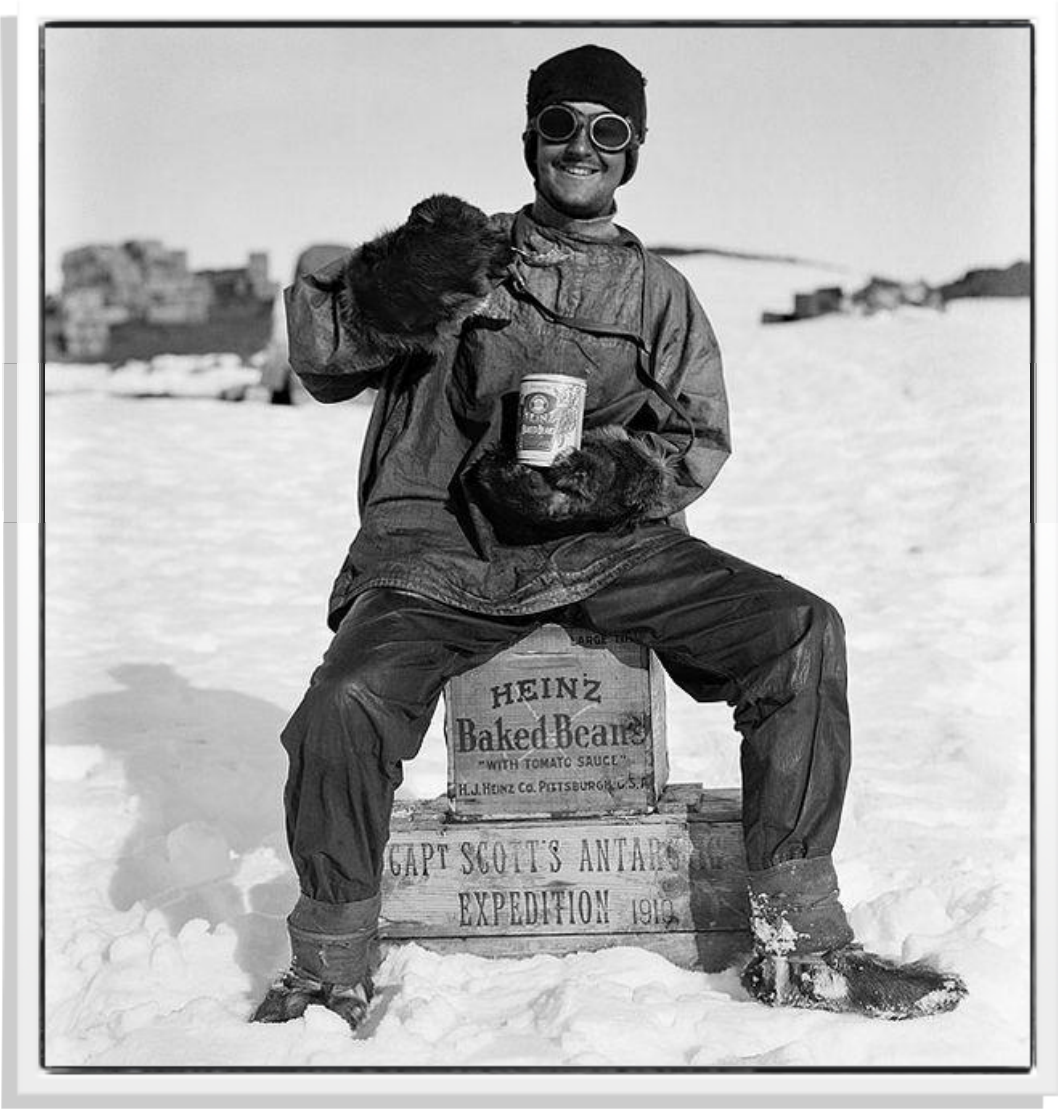
HEINZ
Baked Beans
"WITH TOMATO SAUCE"
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EXPEDITION

Thank You