Why do Humans Imagine Robots?

Project Presentation

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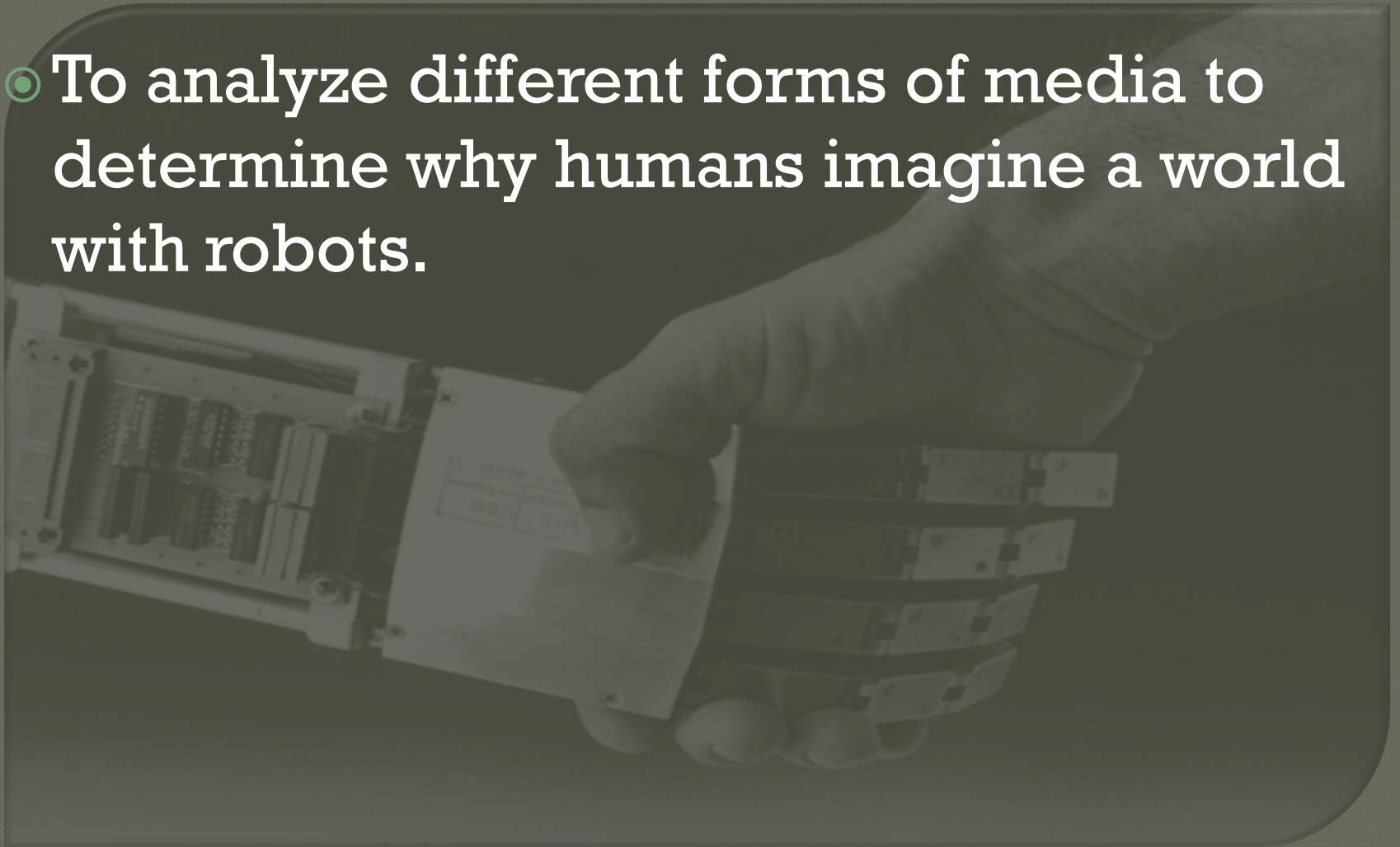Jae Seok Lee
Wade Mitchell-Evans

WPI

- To analyze different forms of media to determine why humans imagine a world with robots.
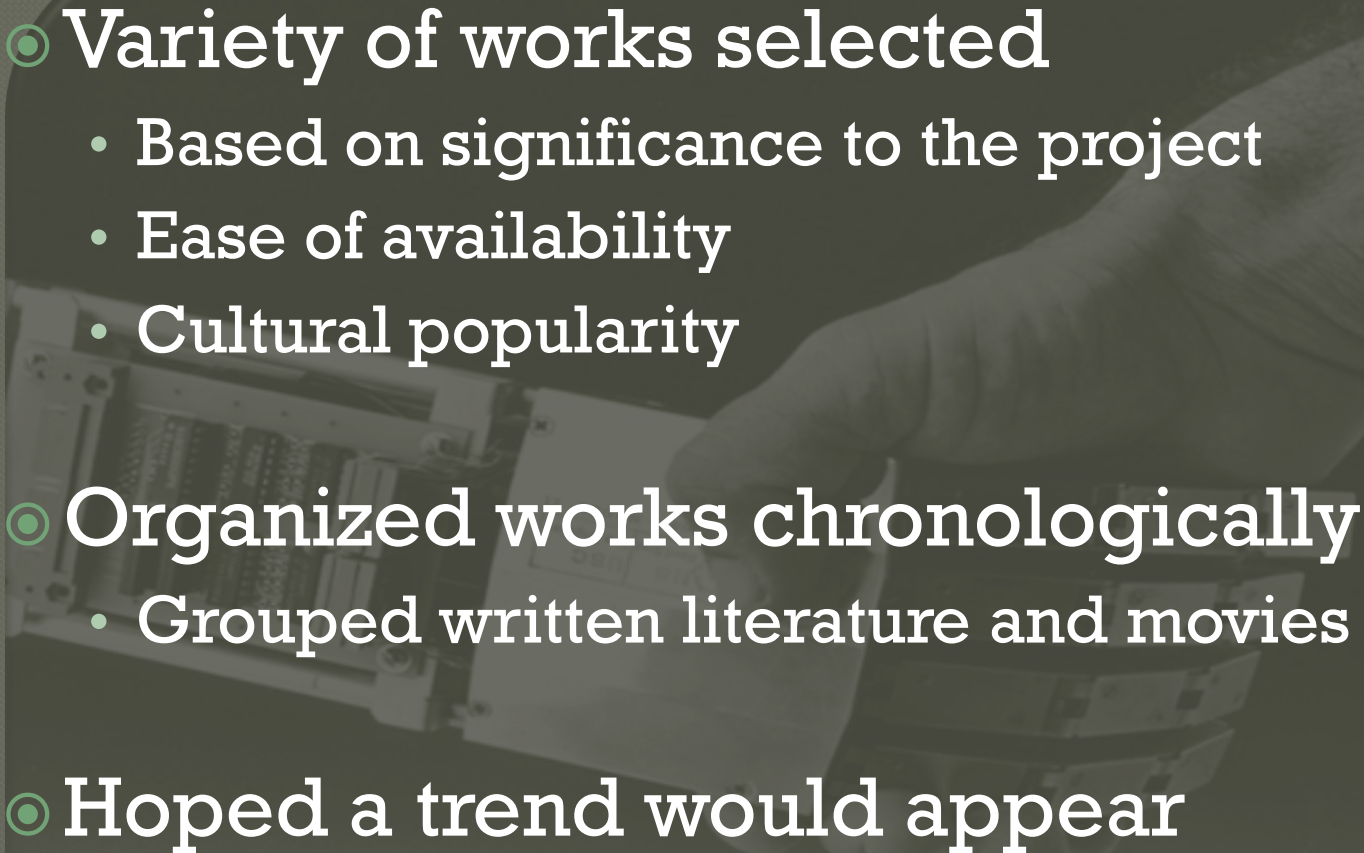
Definition

- Final Definition:
  - A robot is a mechanical device, designed by humans, which makes decisions independently from an operator based on its ability to both sense and manipulate its surrounding environment.

- We experienced a few cases where the WPI Community's view on robots did not match this definition.

Literature-Methodology

- Variety of works selected
  - Based on significance to the project
  - Ease of availability
  - Cultural popularity

- Organized works chronologically
  - Grouped written literature and movies
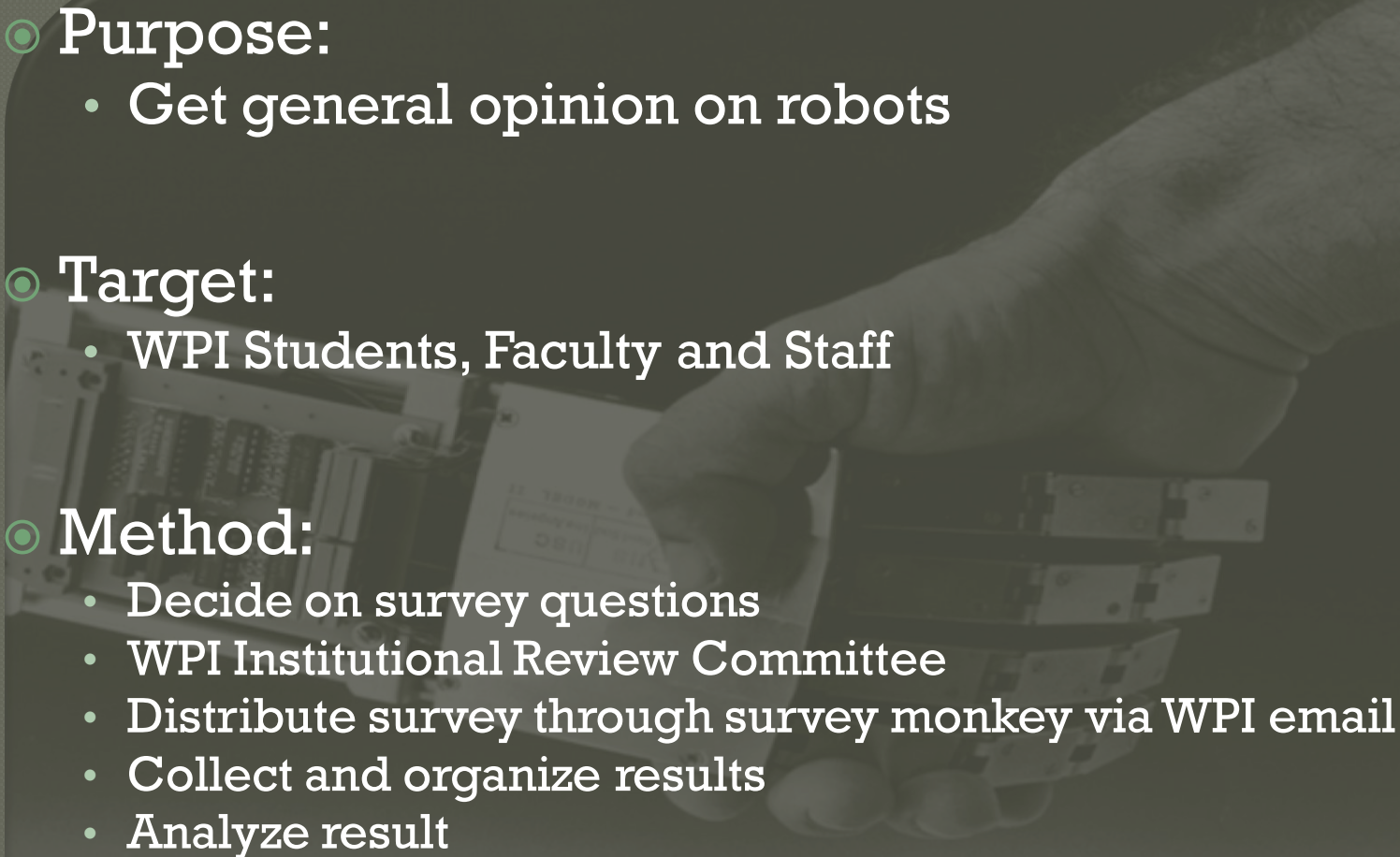
- Hoped a trend would appear

Written Literature-Analysis

- Robots in stories have been slaves, superiors, companions, and equals

- Slave robots were generally "good"

- Superior robots were generally "evil"
  - The type of superiority changed throughout the years

Literature-Movies Analysis

- Gradual evolution of the portrayal of robots.

  - General public has steadily become more sophisticated

  - Movies are based off of what the public would like to see

- Same spectrum (as books) of relationships robots have with humans

Survey-Methodology

- Purpose:
  - Get general opinion on robots

- Target:
  - WPI Students, Faculty and Staff

- Method:
  - Decide on survey questions
  - WPI Institutional Review Committee
  - Distribute survey through survey monkey via WPI email
  - Collect and organize results
  - Analyze result

Survey-Questions

- 1. When you hear the word "robot", does a positive or negative connotation come to mind?

- 2. Given that connotation, a fictional or non-fictional robot may have come to mind to you. If so, please state the name of the robot or its functionality.

- 3. Personally, why do you feel either a positive or negative connotation towards robots?

- 4. What is your first memory involving robots?

- 5. What relationship do you think robots will have with humans in the near future?

- 6. Assuming any technology is possible, if you could build a robot, what would you have its main functionality be?

- 7. Age, gender, and major

Survey-Hypotheses

- General trend would be observed

- Minor trends might appear depending on age, gender, and major

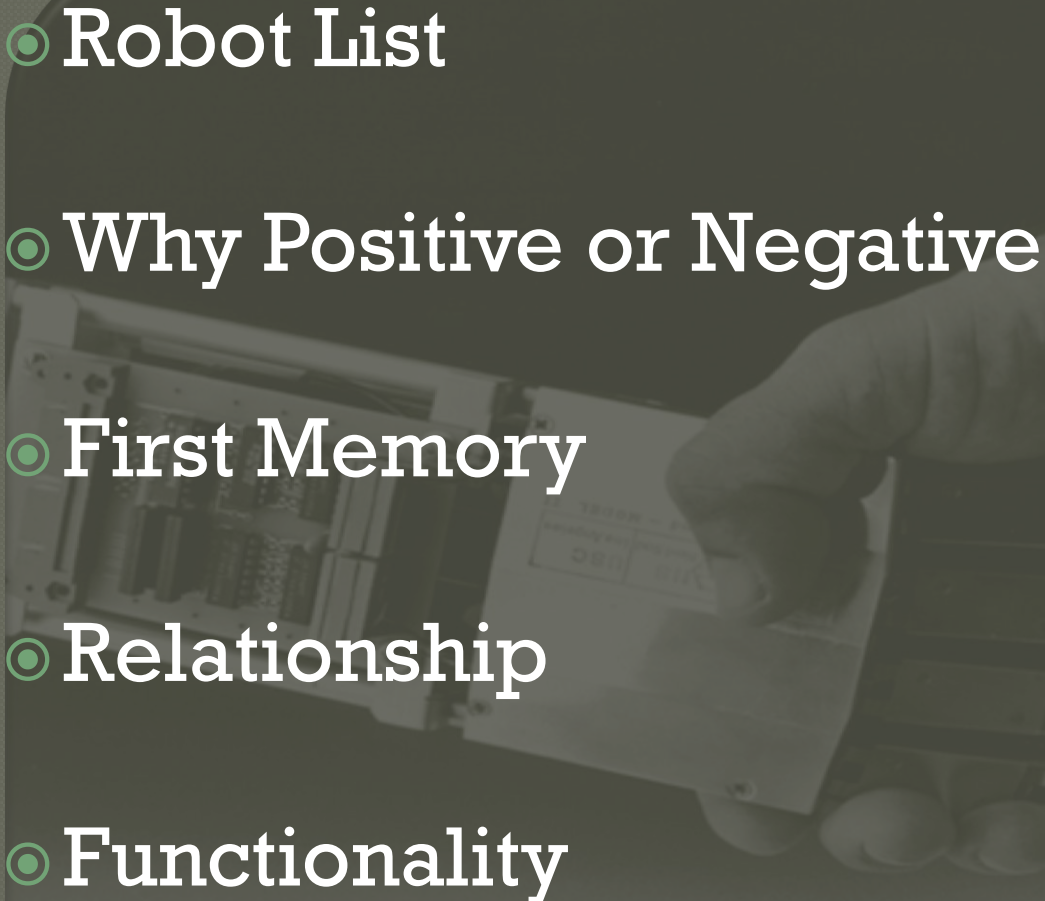# Survey-Numerical Results

- ⦿ Numerical Data
  - 350 responses – (274 valid)
  - Positive - 86.3%
  - Negative – 16.6%
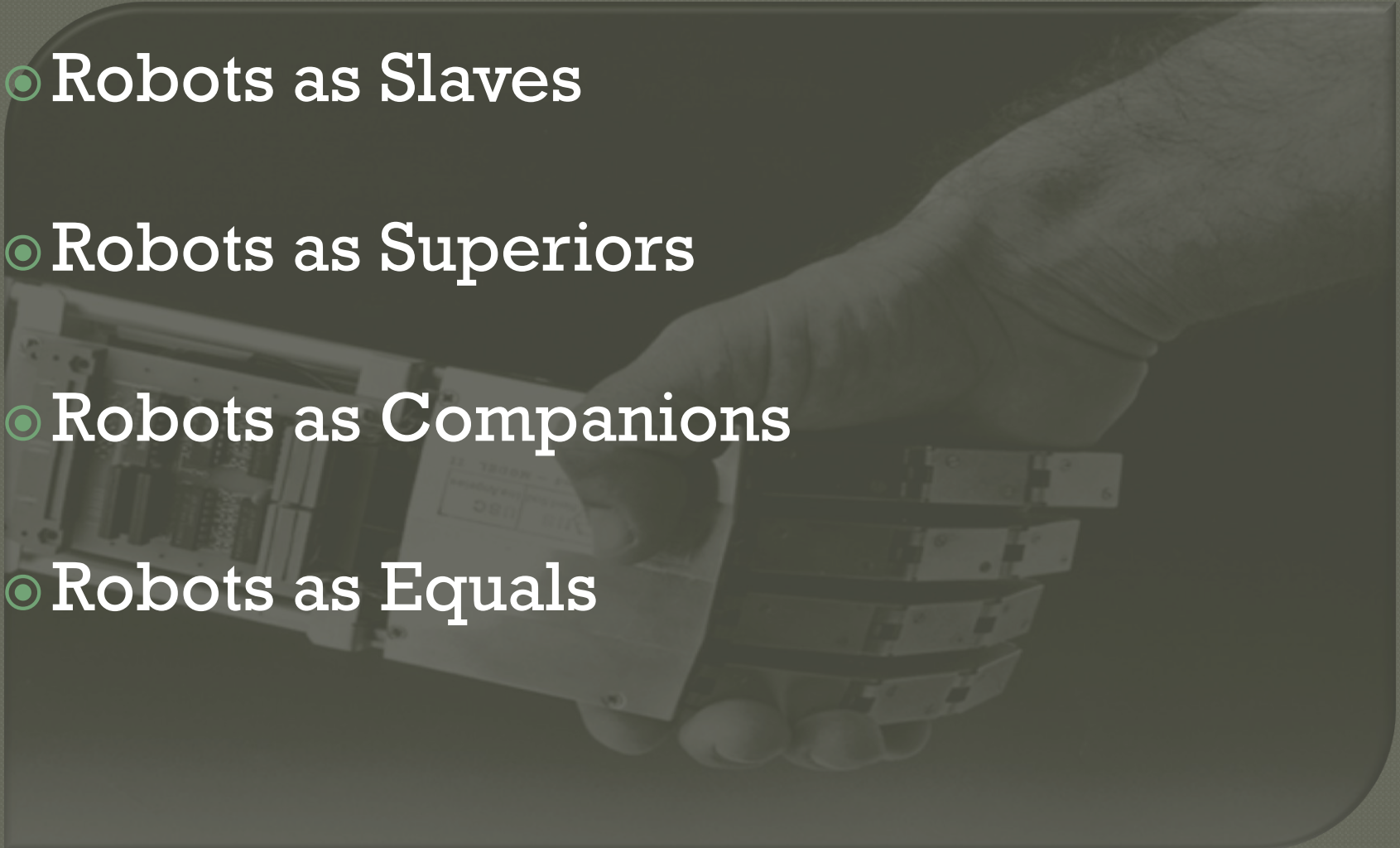 - Neutral – 10 responses of both positive and negative

- ⦿ Result Organization (Tally)
  - Generation-X Vs. Generation-Y
  - Positive Vs. Negative + Neutrals
  - Major
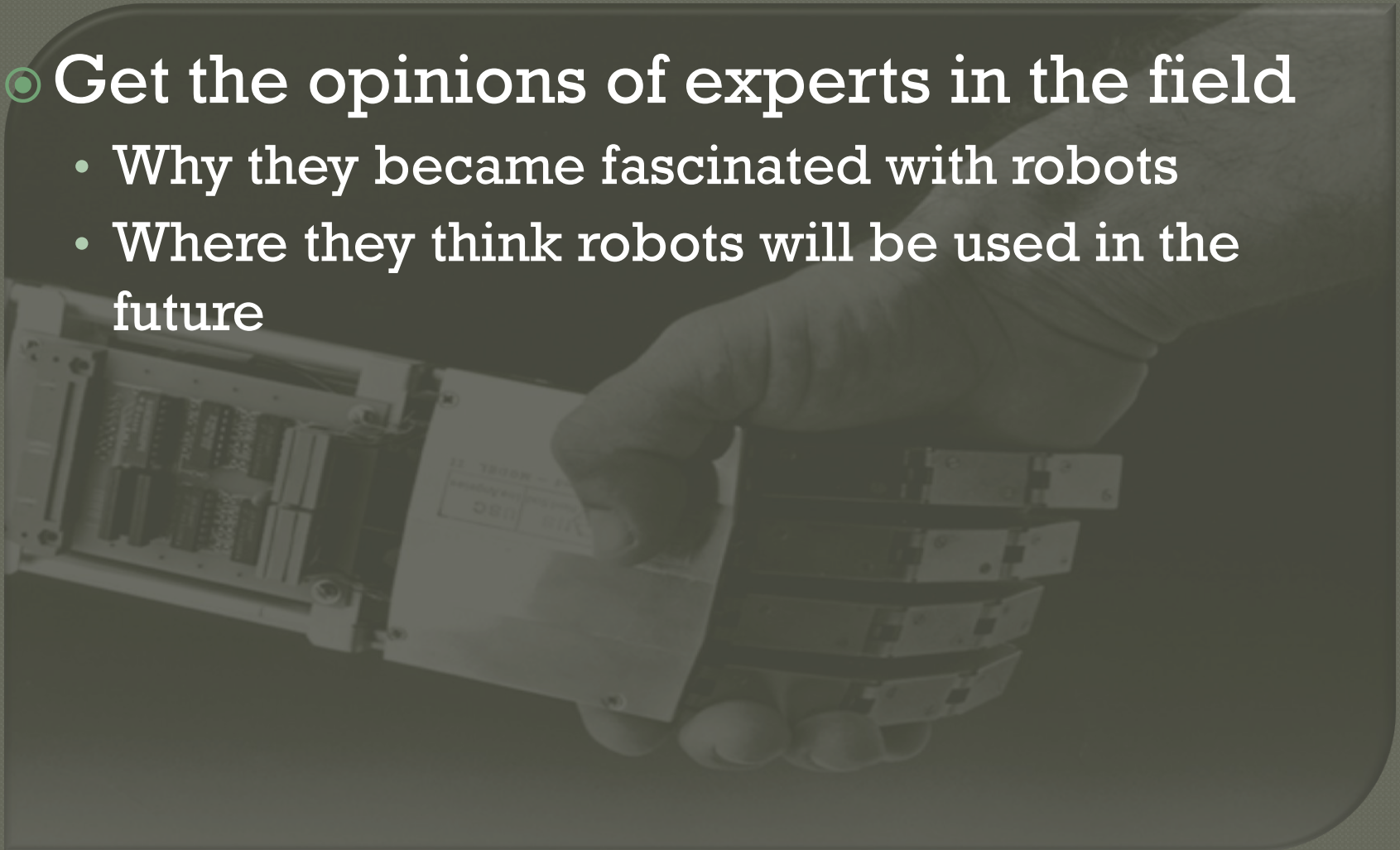 - Categories

Survey-Analyses

- Robot List

- Why Positive or Negative

- First Memory

- Relationship

- Functionality

Survey-Conclusions

- Robots as Slaves

- Robots as Superiors

- Robots as Companions

- Robots as Equals

Interview-Methodology

- Get the opinions of experts in the field
  - Why they became fascinated with robots
  - Where they think robots will be used in the future

Interview-Participants

- **Charles Rich** (Robotics Faculty Member)
- **Kenneth Stafford** (Director of Robotics)
- **Bradley Miller** (Associate Director of Robotics)
- **Michael Ciaraldi** (Robotics Faculty Member)
- **Robert Lindeman** (Robotics Assistant Professor)
- **Lance Schachterle** (Humanities and Arts Professor)
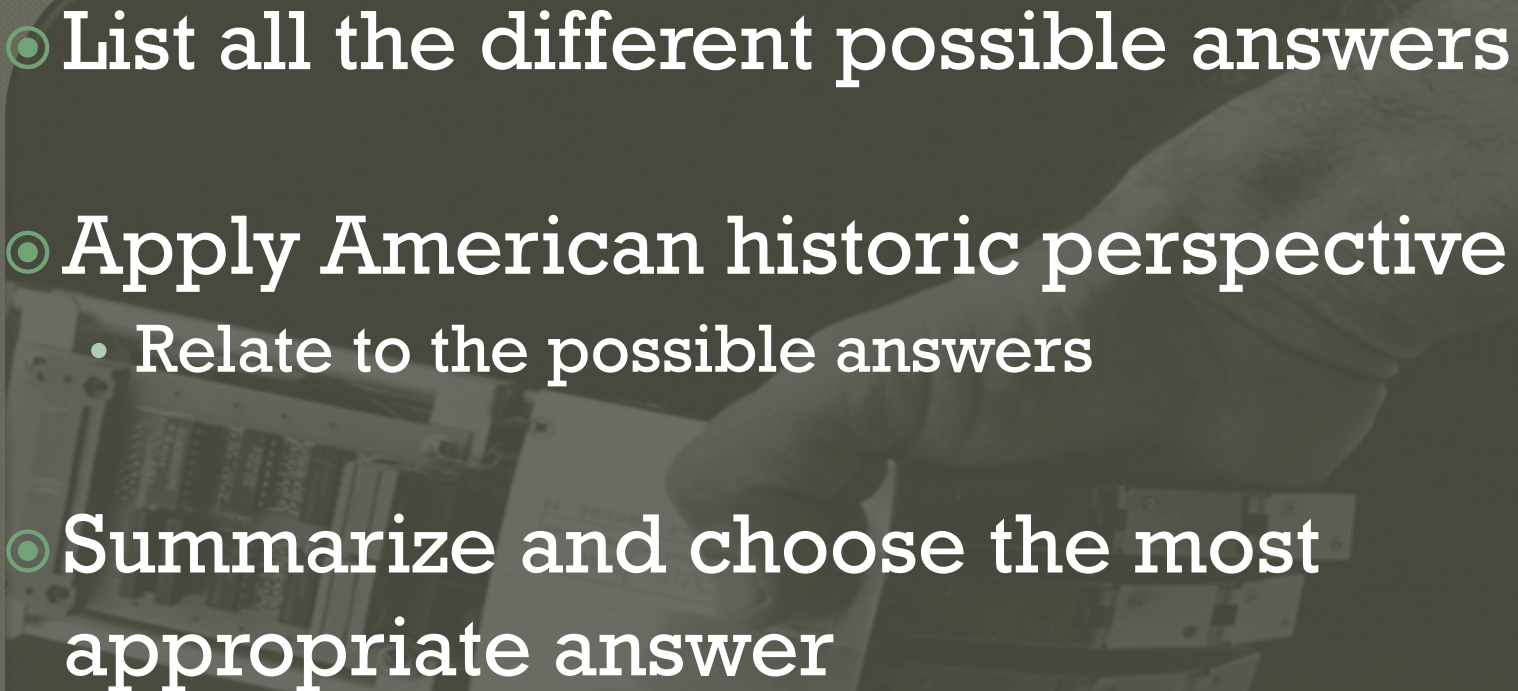
Interview-Questions

- 1. When and why did your fascination with robots begin?

- 2. Of all the fictional robots you have seen to date (any media), which one has been the most impressive?

- 3. Of all the non-fictional robots you have seen to date, which one has been the most impressive?

- 4. What do you think is the most important development in the robotics field in recent times (last 10 years)?

- 5. What do you think will be the most important development in the robotics field in the next 25 years?

- 6. What is your most memorable or significant project involving robotics, and why was it?

- 7. In your opinion, how will robots change human activities and lifestyle in the coming years?
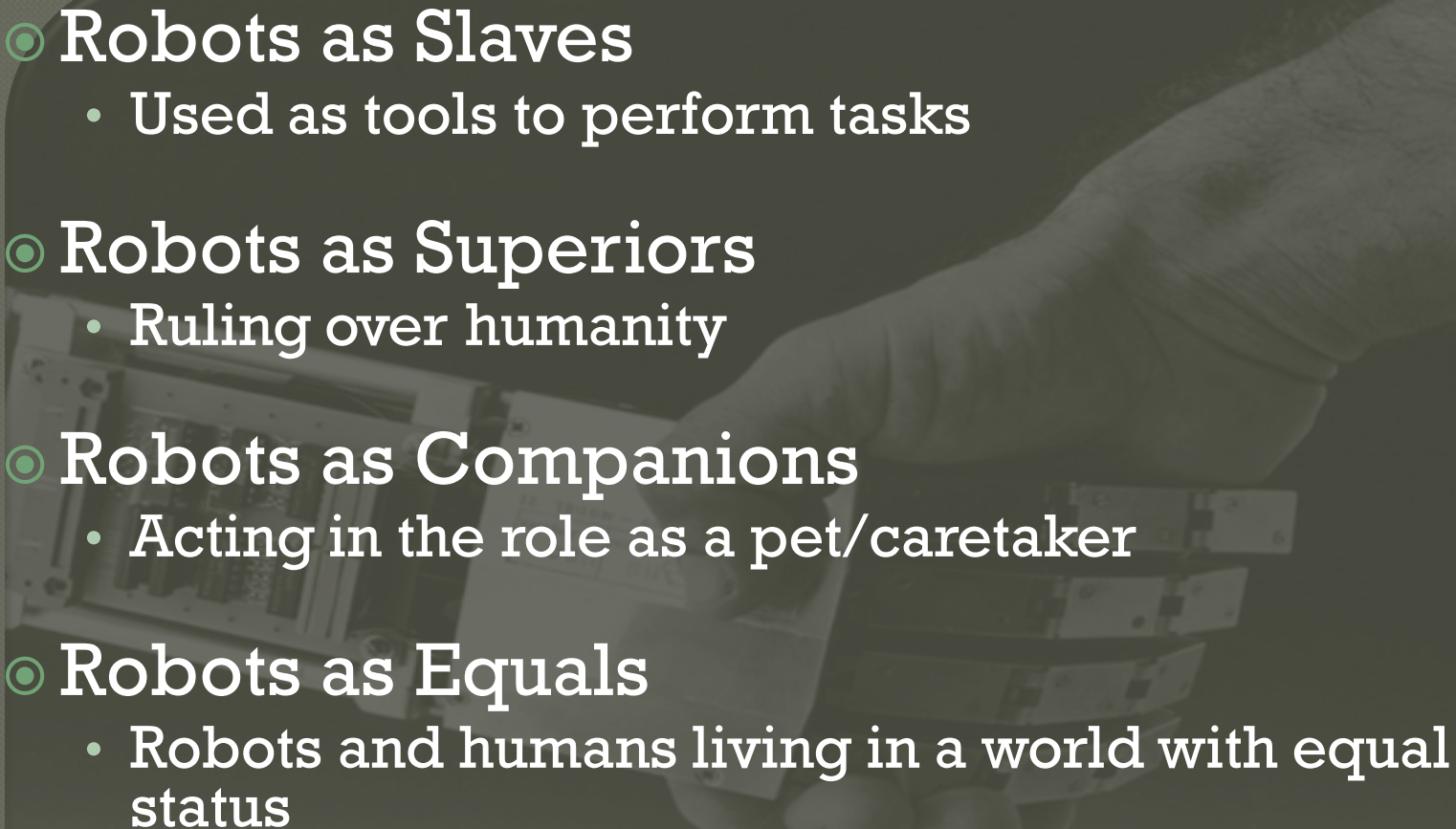
Interview-Results

- Professors thought very similarly
  - Most important developments (in last 25 yrs)
    - Cheaper parts
    - Better sensors
    - Faster processors

  - Automation will be a very important development in the future
  - Automation will also make human lives easier
    - Snow blower often given as an example
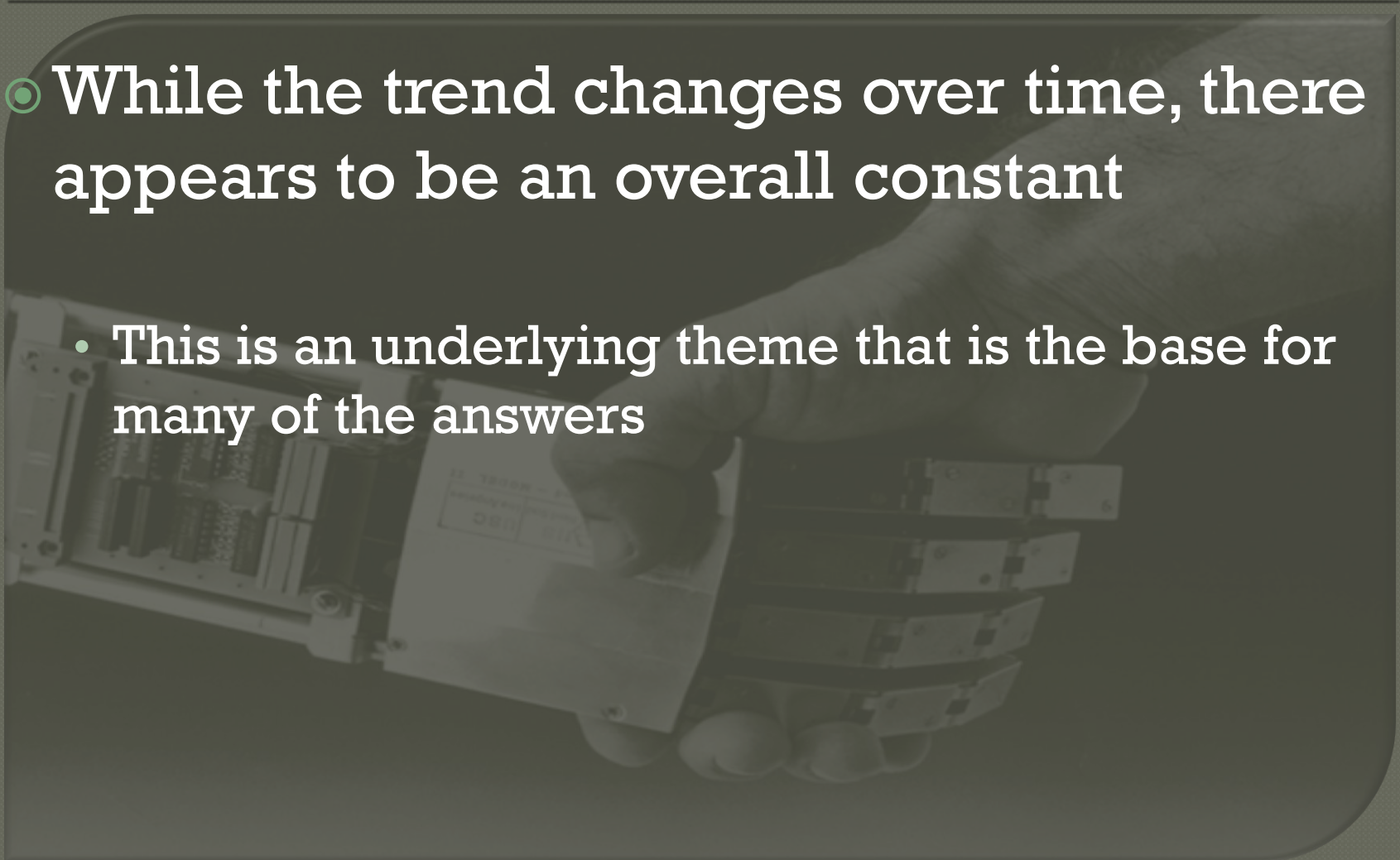
Project Conclusion-Methodology

- List all the different possible answers

- Apply American historic perspective
  - Relate to the possible answers

- Summarize and choose the most appropriate answer

Possible Answers

- Robots as Slaves
  - Used as tools to perform tasks

- Robots as Superiors
  - Ruling over humanity

- Robots as Companions
  - Acting in the role as a pet/caretaker

- Robots as Equals
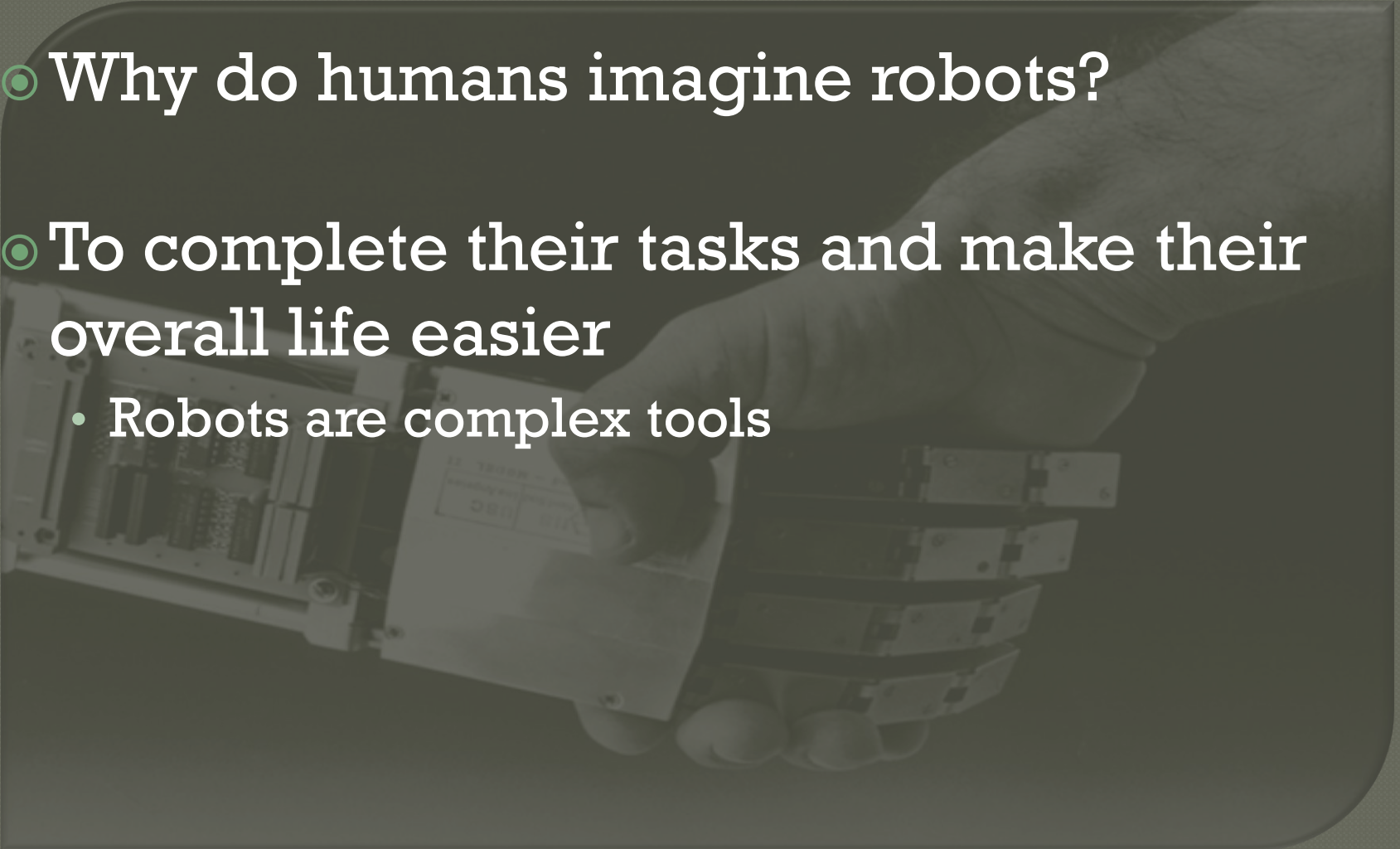 - Robots and humans living in a world with equal status

Choosing an Answer

- While the trend changes over time, there appears to be an overall constant

  - This is an underlying theme that is the base for many of the answers

Final Answer

- Why do humans imagine robots?

- To complete their tasks and make their overall life easier
  - Robots are complex tools

Questions/Comments?

End