

## APPENDIX C EXAMPLE HUMAN SESSION

This appendix contains the output of an example human session of the system described in appendix B. The lines in the listing are numbered as shown. The letter following the line number corresponds to the type of construct that is on the line. Table 0 provides the interpretation of these letters.

Table C1: Session Listing - Line key

H	Human	The human entered the text into Stratagus.
S	Shared Concept	A concept was added to the shared concept graph.
M	Message	This is the message (operator) the system is processing.
R	Rule	A rule fired within the system.
#	Agent Execution	Result of an agent operator, including its input signature.
A	Agent	The agent sent a message to the human.
D	Display	Something that changed with the Stratagus display.

The shared concept line includes a number corresponding to the identifier provided for that shared concept. It is important to note that there are more shared concepts that revealed in the listing, but many were removed for brevity. Other such modifications made for brevity include the removal of reference concepts down to identifiers, such as a reference to ‘engineer’.

The definition and descriptions for all of the concepts and operators listed here can be found in appendix A. Additionally, discussions of the conversational capabilities demonstrated within this trial can be found in chapter 5.

Table C2: Example Human Session Listing

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[001-H]: "Send 7 engineers to mine."
[002-S]: [00001] = (Action
  <name mine>
  <performer (Quantity <value 7> <content engineer>)> )
[003-M]: (@Order <orders (00001)>)
[004-R]: (@Order <orders Action:?A>)
  => (#EvaluateAction <action ?A> <intent execute>)
[005-#]: (#EvaluateAction <action ?A> <intent execute>)
  => { ($Reject <rejection ?A> <justification ?B>),
    ($Propose
      <proposal (Modification
        <original ?A> <modified ?C>)> ) }
[006-S]: [00002] = (RestrictionQuantity
  <content engineer>
  <current 2>
  <required 7>
  <polarity insufficient> )
[007-M]: ($Reject
  <rejection (00001)>
  <justification (00002)>)
[008-A]: >> "I can't, there are only two engineers."
[009-S]: [00003] = (ActionSequence
  <first (Action
    <name train>
    <target (Quantity <value 5> <content engineer>)> )>
  <second (00001)> )
[010-S]: [00004] = (Modification
  <original (00001)>
  <modified (00003)> )
[011-M]: ++($Propose <proposal (00004)>)+
[012-A]: >> "Should I train more?"
[013-H]: "Yes"
[014-M]: (@Answer <polarity affirmative>)
[015-R]: { (@Answer <polarity affirmative>),
  ??($Propose <proposal ?A>)?? }
  => { (@Accept <acceptance ($Propose <proposal ?A>)>),
    --($Propose <proposal ?A>)-- }
[016-M]: (@Accept <acceptance ($Propose <proposal (00004)>)>)
[017-R]: (@Accept <acceptance ($Propose
  <proposal (Modification <original ?A> <modified ?B> )> )>)
  => { (%GetIntent <content ?A> ) -> ?C,
    (#EvaluateAction <action ?B> <intent ?C> ) }
[018-#]: (#EvaluateAction <action ?A> <intent execute>)
  => { ($Query <query ?C> ) }
[019-S]: [00005] = (MissingParameter <content (00001)> <parameter Action:target> )
[020-M]: ++($Query <query (00005)>)+
[021-A]: >> "What should they mine?"
[022-H]: "What are my options?"
[023-M]: (@Query <query (PossibleParameterValues)>)
[024-R]: { (@Query <query (PossibleParameterValues)>),
  [$Query <query (QueryParameter <content ?A> <parameter ?B>)>] }
  => (#GetPossibleParameterValues <content ?A> <parameter ?B>)
[025-#]: (#GetPossibleParameterValues <content ?A> <parameter ?B>)
  => ($Answer <content (PossibleParameterValues:?C)>)
[026-S]: [00006] = (PossibleParameterValues <length 2> <first crystal> <second titanium>)
[027-M]: ($Answer <content (00006)>)
[028-A]: >> "Crystal or titanium."
[029-H]: "Crystal"
[030-M]: (@Tell <content Crystal>)
[031-R]: { (@Tell <content ?A>),
  ??($Query <query ?B>)??,
  (#QueryResponseMatch <query ?B> <response ?A> ) }
  => { (^RewriteQuery <query ?B> <response ?A> ) -> ?C,
    (%GetIntent <content ?C> ) -> ?D,
    (^HandleResponse <content ?C> <intent ?D>),
    --($Query <query ?B>)-- }
[032-R]: (^RewriteQuery

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        <query (QueryParameter <content ?A> <parameter ?B> )>
        <response ?C> )
    -> (%AddParameter <original ?A> <parameter ?B> <value ?C>)
[033-S]: [00007] = (Action
    <name mine>
    <performer (Quantity <value 7> <content engineer>)>
    <target crystal> )
[034-R]: (^HandleResponse <content (Action:?A)> <intent ?B>)
    => (#EvaluateAction <action ?A> <intent ?B>)
[035-#]: (#EvaluateAction <action ?A> <intent execute>)
    => ($Confirm <confirmation ?A>)
[036-M]: ($Confirm <confirmation (00007)>)
[037-A]: >> "Ok"
[038-H]: "Have 7 more engineers mine titanium."
[039-S]: [00008] = (Action
    <name mine>
    <performer (Quantity
        <value 7>
        <content (Modifier <modifier more> <content engineer>)> )>
    <target titanium> )>)
[040-M]: (@Order <orders (00008)>)
[041-R]: (@Order <orders Action:?A>)
    => (#EvaluateAction <action ?A> <intent execute>)
[042-#]: (#EvaluateAction <action ?A> <intent execute>)
    => ($Confirm <confirmation ?A>)
[043-M]: ($Confirm <confirmation (00008)>)
[044-A]: >> "Ok"
[045-H]: "After that have another engineer build 2 generators."
[046-S]: [00009] = (Action
    <prerequisite that>
    <performer (Modifier <modifier another> <content engineer>)>
    <name build>
    <target (Quantity <value 2> <content generator>)> )
[047-M]: (@Order <orders (00009)>)
[048-R]: (@Order <orders Action:?A>)
    => (#EvaluateAction <action ?A> <intent execute>)
[049-#]: (#EvaluateAction <action ?A> <intent execute>)
    => ($Query <query ?B>)
[050-S]: [00010] = (Action
    <name build>
    <performer (Modifier <modifier another> <content engineer>)>
    <target (Quantity <value 2> <content generator>)> )>
    <prerequisite (00004)> )
[051-S]: [00011] = (MissingParameter
    <content (00010)>
    <parameter Action:location> )>)
[052-M]: ++($Query <query (00011)>)+
[053-A]: >> "Where?"
[054-H]: "To the west, near the other generators."
[055-S]: [00012] = (DirectionLocation <reference current-location> <direction west>)
[056-S]: [00013] = (Proximity
    <reference (Modifier <modifier other> <content generator> )>
    <distance near> )
[057-S]: [00014] = (Conjunction <first (00012)> <second (00013)>)
[058-M]: (@Tell <content (00014)>)
[059-R]: { (@Tell <content ?A>),
    ??($Query <query ?B>)??,
    (#QueryResponseMatch <query ?B> <response ?A> ) }
    => { (^RewriteQuery <query ?B> <response ?A>) -> ?C,
        (%GetIntent <content ?C>) -> ?D,
        (^HandleResponse <content ?C> <intent ?D>),
        --($Query <query ?B>)-- }
[060-R]: (^RewriteQuery
    <query (QueryParameter <content ?A> <parameter ?B> )>
    <response ?C> )
    -> (%AddParameter <original ?A> <parameter ?B> <value ?C>)
[061-S]: [00015] = (Action
    <name build>
    <performer (Modifier <modifier another> <content engineer>)>
    <target (Quantity <value 2> <content generator>)>
    <prerequisite (00004)>

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        <location (00014)> )
[062-R]: (^HandleResponse <Action:?A> <intent ?B>)
        => (#EvaluateAction <action ?A> <intent ?B>)
[063-#]: (#EvaluateAction <action ?A> <intent execute>) =>
        ($Confirm <confirmation ?A>)
[064-M]: ($Confirm <confirmation (00015)>)
[065-A]: >> "Ok"
[066-H]: "Send an engineer to the northeast to build a training camp."
[067-S]: [00016] = (Action
        <name build>
        <target 'training camp'> )
[068-S]: [00017] = (Action
        <name move>
        <performer engineer>
        <location 'the northeast'>
        <intent (00016)> )
[069-M]: (@Order <orders (00017)>)
[070-R]: (@Order <orders Action:?A>)
        => (#EvaluateAction <action ?A> <intent execute>)
[071-#]: (#EvaluateAction <action ?A> <intent execute>)
        => ($Request <request ?B>)
[072-S]: [00018] = (ActionPermission
        <content (Action <name mine> <performer engineer01> <target crystal>)>
        <type halt> )
[073-M]: ++($Request <request (00018)>)
[074-A]: >> "May I take one away from mining?"
[075-H]: "No, use a new one, as soon as possible."
[076-S]: [00019] = (Action
        <name use>
        <target (Modifier <modifier new> <content one>)>
        <priority asap> )
[077-S]: [00020] = (Action
        <method (Modifier <modifier new> <content one>)>
        <priority asap> )
[078-M]: (Conjunction
        <first (@Answer <polarity negative>)>
        <second (Disjunction
                <first (@Order <orders (00019)>)>
                <second (@Order <orders (00020)>)> )> )
[079-R]: (Conjunction <first ?A> <second ?B>)
        => { (?A):resolve#->?C,
        (?B):resolve#->?D,
        (^ResolveConjunction <first ?C> <second ?D>) }
[080-M]: (@Answer <polarity negative>)
[081-R]: { (@Answer <polarity negative>),
        ??($Request <request ?A>)?? }
        => { (@Deny <content ?A>),
        --($Request <request ?A>)-- }
[082-R]: (@Deny <content (Permission ?A)>)
        => (#PermissionDenied <permission (Permission ?A)>)
[083-R]: (Disjunction <first ?A> <second ?B>)
        => { (?A):resolve#->?C,
        (?B):resolve#->?D,
        (^ResolveDisjunction <first ?C> <second ?D>) }
[084-M]: (@Order <orders (00019)>)
[085-R]: (@Order <orders Action:?A>)
        => (#EvaluateAction <action ?A> <intent execute>)
[086-M]: (@Order <orders (00020)>)
[087-R]: { (@Order <orders Action:?A>,
        [Action:?B],
        (!(%Collision <first ?A> <second ?B>))) }
        => { (%Merge <first ?A> <second ?B>) -> ?C,
        (@Order <orders Action:?C> ) }
[088-S]: [00021] = (Action
        <name move>
        <performer engineer>
        <location 'the northeast'>
        <intent (00017)>
        <method (Modifier <modifier new> <content one>)>
        <priority asap> )
[089-S]: (@Order <orders (00021)>)

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[090-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[091-M]: (^ResolveDisjunction
  <first (#EvaluateAction <action (00019)> <intent execute>)>
  <second (#EvaluateAction <action (00021)> <intent execute>)> )
[092-R]: (^ResolveDisjunction
  <first (#EvaluateAction <action ?A> <intent execute>)>
  <second (#EvaluateAction <action ?B> <intent execute>)> )
=> { (#EvaluateAction <action ?A> <intent rate-numeric>) -> ?C,
  (#EvaluateAction <action ?B> <intent rate-numeric>) -> ?D,
  (if
    <eval (> <first ?C> <second ?D>)>
    <then (#EvaluateAction <action ?A> <intent execute>)>
    <else (#EvaluateAction <action ?B> <intent execute>)> ) }
[093-M]: (^ResolveConjunction
  <first (#PermissionDenied <permission (00018)>)>
  <second (#EvaluateAction <action (00021)> <intent execute>)> )
[094-R]: { (^ResolveConjunction
  <first (#PermissionDenied <permission ?A>)>
  <second (#EvaluateAction <action ?B> <intent execute> )>),
  (%GetIntent <content ?A>) -> ?C,
  (= <first ?C> <second execute>),
  (%GetGenerator <content ?A>) -> ?D,
  (%IsRefinement <original ?D> <refined ?B>) }
=> { (#PermissionDenied <permission ?A> <intent record>),
  (#EvaluateAction <action ?D> <intent execute>) }
[095-#]: (#PermissionDenied <permission ?A> <intent record>) => {}
[096-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?B>)
[097-S]: [00022] = (Action
  <name train>
  <target engineer>
  <intent (Action
    <name build>
    <target 'training camp'>
    <location 'the northeast'> )>
  <priority asap> )>
[098-M]: ($Confirm
  <confirmation (ActionPrecedence
    <first (Action (00022))>
    <last (Action
      <name train>
      <target engineer>
      <intent any> )> )> )>
[099-A]: >> "Ok, I will use the next one trained."
[100-H]: "Also send one to the south to build a training camp."
[101-S]: [00023] = (Action
  <name build>
  <target 'training camp'> )
[102-S]: [00024] = (Action
  <name move>
  <content engineer>
  <location 'the south'>
  <intent (Action <name build> <target 'training camp'>)> )
[103-M]: (@Order <orders (Modifier <modifier also> <content (00024)>)> )
[104-R]: (@Order <orders (Modifier <modifier also> <content (Action:?A)>)> )
=> (@Order <orders (Action:?A)> )
[105-R]: (@Order <orders Action:?A> )
=> (#EvaluateAction <action ?A> <intent execute>)
[106-#]: (#EvaluateAction <action ?A> <intent execute>)
=> { ($Request <request ?B>) }
[107-S]: [00025] = (Refinement
  <original (Action 00023)>
  <refinement (Action
    <method (Modifier <modifier new> <content one>)>
    <priority asap> )> )
[108-M]: ++($Request <request (Confirm <confirmation (00025)>)> )++
[109-A]: >> "A new one, as soon as possible?"
[110-H]: "Yes"
[111-M]: (@Answer <polarity affirmative> )
[112-R]: { (@Answer <polarity affirmative>),

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    ??($Request <request ?A>?? }
=> { (@Accept <acceptance ?A>),
      --($Request <request ?A>)-- }
[113-R]: (@Accept <acceptance (Confirm <confirmation ?A>)>)
=> (@Confirm <confirmation ?A>)
[114-R]: { (@Confirm <confirmation (Refinement <original ?A> <refinement ?B>)>),
           (%GetIntent <content ?A>) -> ?C }
=> { (%Merge <first ?A> <second ?B>) -> ?D,
      (#EvaluateAction <action ?D> <intent ?C>) }
[115-S]: [00026] = (Action
  <name move>
  <content engineer>
  <location 'the south'>
  <intent (00023)>
  <method (Modifier <modifier new> <content one>)>
  <priority asap> )
[116-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?B>)
[117-S]: [00027] = (Action
  <name train>
  <target engineer>
  <intent (Action
    <name build>
    <target 'training camp'>
    <location 'the south'> )>
  <priority asap> )
[118-M]: ($Confirm
  <confirmation (ActionPrecedence
    <first (Action (00027)>
    <last (Action
      <name train>
      <target engineer>
      <intent any> )> )> )>)
[119-A]: >> "Ok"
[120-H]: "Let me know when the camps are completed."
[121-S]: [00028] = (Event <event camp> <type completion>)
[122-M]: (@Request <request ($Notify <notification (00028)>)>)>
[123-R]: (@Request <request ($Notify <notification ?A>)>)>
=> (#RegisterNotification <notification ?A>)
[124-#]: (#RegisterNotification <notification ?A>)
=> ($Confirm <confirmation ?B>)
[125-S]: [00029] = (Event <event (00022)> <type completion> )
[126-S]: [00030] = (Event <event (00027)> <type completion> )
[127-M]: ($Confirm
  <confirmation (Conjunction
    <first (@Request <request ($Notify <notification (00029)>)>)>
    <second (@Request <request ($Notify <notification (00030)>)>)> )> )>
[128-A]: >> "Ok"
[129-H]: "How much time is left in the game?"
[130-S]: [00031] = (Timespan <begin now> <end (Event <event game> <type completion>)>)>
[131-S]: [00032] = (QueryParameter <content (00031)> <parameter Timespan:value>)
[132-M]: (@Query <query (00032)>)>
[133-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[134-#]: (#EvaluateQuery <query ?A>) => ($Answer <polarity ?B> <confidence ?C>)
[135-M]: ($Answer <polarity ambiguous> <confidence 20%> )
[136-A]: >> "I'm not sure."
[137-H]: "More than 5 minutes?"
[138-S]: [00033] = (MagnitudeRelation
  <relationship greater-than>
  <magnitude (Quantity <value 5> <content minutes>)> )> )>
[139-M]: (@Query <query (00033)>)>
[140-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[141-#]: (#EvaluateQuery <query ?A>)
=> ($Query <query ?B>)
[142-S]: [00034] = (MissingParameter <content (00033)> <parameter Relation:reference> )
[143-M]: ++($Query <query (00034)>)>
[144-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>)>),
           (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
      (%GetIntent <content ?D>) -> ?E,
      (^HandleResponse <content ?D> <intent ?E>),

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--($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[145-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[146-S]: [00035] = (MagnitudeRelation
  <relationship greater-than>
  <magnitude (Quantity <value 5> <content minutes>)>
  <reference (00031)>)
[147-M]: (@Query <query (00035)>)
[148-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[149-#]: (#EvaluateQuery <query ?A>)
=> ($Answer)
[150-S]: [00036] = ($Answer <polarity affirmative> <confidence 100%>)
[151-M]: (00036)
[152-A]: >> "Yes"
[153-H]: "Why?"
[154-S]: [00037] = (Explanation)
[155-M]: (@Query <query (00034)>)
[156-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[157-#]: (#EvaluateQuery <query ?A>)
=> ($Query <query ?B>)
[158-S]: [00038] = (MissingParameter
  <content (00037)>
  <parameter Explanation:content> )
[159-M]: ++($Query <query (00038)>)+
[160-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[161-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[162-S]: [00039] = (Explanation
  <content ($Answer
  <polarity affirmative>
  <confidence 100%> )>
  <content (00035)> )>)
[163-M]: (@Query <query (00039)>)
[164-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[165-#]: (#EvaluateQuery <query ?A>) =>
  ($Answer <content ?B>)
[166-S]: [00040] = (Quantity <value 1> <content opponent>)
[167-S]: [00041] = (CompareRelation
  <relationship equal>
  <reference1 (Modifier <modifier our> <content resources>)>
  <reference2 (Modifier <modifier their> <content resources>)> )
[168-S]: [00042] = (StateInTime <time begin> <content (00041)>)
[169-S]: [00043] = (MagnitudeRelation
  <relation equals>
  <magnitude 0>
  <reference (Modifier <modifier their> <content resources>)> )
[170-S]: [00044] = (Inference
  <if (00043)>
  <then (Event <event game> <type completion>)> )
[171-S]: [00045] = (Plan <objective (00043)>)
[172-S]: [00046] = (Timespan <value (00045):duration:minimum>)
[173-S]: [00047] = (MagnitudeRelation
  <relation at-least>
  <magnitude (Quantity <value 10> <content minutes>)>
  <reference (00046)> )
[174-S]: [00048] = (MagnitudeRelation
  <relation at-least>
  <magnitude (Quantity <value 10> <content minutes>)>
  <reference (00031)> )
[175-S]: [00049] = (Argument
  <givenfact (00040)>
  <givenfact (00042)>
  <givenrule (00044)>
  <assumerule (00047)>
  <conclusion (00048)> )
[176-S]: [00050] = (Explanation

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        <content ($Answer
          <polarity affirmative>
          <confidence 100%>
          <content (00035)> )>
        <explanation (00049)> )
[177-M]: ($Answer <content (00050)>)
[178-A]: >> "Given that there is only one opponent, and they start with the same
resources."
[179-A]: >> "It would take at least 10 minutes to build an army, find them and destroy
what resources we know they have."
[180-H]: "So, 10 minutes?"
[181-S]: [00051] = (ConclusionOf <conclusion (Quantity <value 10> <content minutes>) >)
[182-M]: (@Query <query (00051)>)
[183-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[184-#]: (#EvaluateQuery <query ?A>) => ($Query <query ?B>)
[185-S]: [00052] = (MissingParameter <content (00051)> <parameter Conclusion:argument> )
[186-M]: ++($Query <query (00052)>)+
[187-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[188-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[189-S]: [00053] = (ConclusionOf
  <argument (00049)>
  <conclusion (Quantity <value 10> <content minutes>)> )
[190-M]: (@Query <query (00053)>)
[191-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[192-#]: (#EvaluateQuery <query ?A>) => ($Reject <rejection ?B> <justification ?C>)
[193-S]: [00054] = (MagnitudeRelation
  <relation equals>
  <magnitude (Quantity <value 10> <content minutes>)>
  <reference (00046)> )
[194-S]: [00055] = (ConclusionOf <argument (00049)> <conclusion (00054)>)
[195-S]: [00056] = (MagnitudeRelation
  <relation equals>
  <magnitude 0>
  <reference (Modifier <modifier our> <content resources>)> )
[196-S]: [00057] = (Desire <objective (00056)> <who opponent>)
[197-S]: [00058] = (Plan
  <objective (00056)>
  <who opponent>
  <method (Disjunction
    <first (Action <name train>)>
    <second (Action <name build>)> )>
  <confidence 95%>
[198-S]: [00059] = (Inference
  <if (Action <name train>)>
  <then (ChangeQuantity
    <type increase>
    <content (Modifier <modifier Action:team> <content resources>)> )> )>
[199-S]: [00060] = (Inference
  <if (Action <name build>)>
  <then (ChangeQuantity
    <type increase>
    <content (Modifier <modifier Action:team> <content resources>)> )> )>
[200-S]: [00061] = (ChangeQuantity
  <type increase>
  <content (Modifier <modifier their> <content resources>)>
  <confidence 95%> )
[201-S]: [00062] = (MagnitudeRelation
  <relation greater-than>
  <magnitude (Quantity <value 10> <content minutes>)>
  <reference (00046)> )
[202-S]: [00063] = (MagnitudeRelation
  <relation greater-than>
  <magnitude (Quantity <value 10> <content minutes>)>
  <reference (00031)> )
[203-S]: [00064] = (Argument

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    <assumefact (00057)>
    <assumefact (00058)>
    <givenrule (00059)>
    <givenrule (00060)>
    <assumefact (00061)>
    <assumefact (00062)>
    <conclusion (00063)> )
[204-M]: ($Reject <rejection (00055)> <justification (00064)>
[205-A]: >> "No. They are most likely building their resources, it will take longer."
[206-M]: ($Notify <notification (Event <event (00029)> <type completion> )>)
[207-A]: >> "The training camp has been finished."
[208-H]: "Show me."
[209-S]: [00065] = (Action <name present>)
[210-M]: (@Order <orders (00065)>)
[211-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[212-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Query <query ?B>)
[213-S]: [00066] = (MissingParameter
    <content (00065)>
    <parameter Action:target> )
[214-M]: ++($Query <query (00066)>)+
[215-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
    (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
    (%GetIntent <content ?D>) -> ?E,
    (^HandleResponse <content ?D> <intent ?E>),
    --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[216-S]: [00067] = (Action <name present> <target (00029)>)
[217-R]: (^HandleResponse <content (Action:?A)> <intent ?B>)
=> (#EvaluateAction <action ?A> <intent ?B>)
[218-#]: (#EvaluateAction <action ?A> <intent execute>)
[219-D]: ``Training camp 'camp1' is shown on the screen and highlighted.``
[220-M]: ($Notify <notification (Event <event (00030)> <type completion> )>)
[221-A]: >> "The second training camp has been finished."
[222-H]: "Create a squad."
[223-S]: [00068] = (Action <name create> <target 'a squad'>)
[224-M]: (@Order <orders (00068)>)
[225-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[226-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Query <query ?B>)
[227-S]: [00069] = (Procedure <objective (00068)>)
[228-S]: [00070] = (QueryParameter <content (00069)> <parameter Procedure:procedure>)
[229-M]: ++($Query <query (00070)>)+
[230-A]: >> "How do I create a squad?"
[231-H]: "First, train six soldiers."
[232-S]: [00071] = (Action <name train> <target (Quantity <value 6> <content soldier>)>)
[233-S]: [00072] = (Modifier <modifier first> <content (00071)>)
[234-M]: (@Order <orders (00072)>)
[235-R]: { ??($Query <query (QueryParameter:?A)>)?,
    (@Order <orders ?B>),
    (#QueryResponseMatch <query ?A> response <?B>) }
=> { (^RewriteQuery <query ?A> <response ?B>) -> ?C,
    (%GetIntent <content ?C>) -> ?D,
    (^HandleResponse <content ?C> <intent ?D>),
    --($Query <query ?B>)-- }
[236-R]: (^RewriteQuery
    <query (QueryParameter <content ?A> <parameter ?B> )>
    <response ?C> )
    -> (%AddParameter <original ?A> <parameter ?B> <value ?C>)
[237-S]: [00073] = (Procedure <objective (00068)> <procedure (00072)> )
[238-R]: (^HandleResponse <content (Procedure:?A)> <intent ?B>)
=> (#EvaluateAction <action ?A> <intent ?B>)
[239-#]: (#EvaluateAction <action ?A> <intent execute>)
=> { ($Confirm <confirmation ?A>),
    ++(^LookForward <content (00072)> <key first>)+ }
[240-#]: ($Confirm <confirmation (00073)>)
[241-A]: >> "Ok"
[242-H]: "Then, group them together."
[243-S]: [00074] = (Action <name group> <content them>)

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[244-S]: [00075] = (Modifier <modifier then> <content (00074)>)
[245-M]: (@Order <orders (00074)>)
[246-R]: { (@Order <orders (Modifier <modifier then> <content ?B>) >),
  ??(^LookForward <content ?A> <key first>)?? }
=> { (^MergeConcepts
  <first ?A>
  <second (Modifier <modifier then> <content ?B>)> ) -> ?C,
  (^HandleChange <original ?A> <new ?C>),
  --(^LookForward <content ?A> <key first>)-- }
[247-R]: (^MergeConcepts
  <first (Modifier <modifier first> <content (Action:?A)>
  <second (Modifier <modifier then> <content (Action:?B)> )
  -> (ActionSequence <first ?A> <second ?B>)
[248-S]: [00076] = (ActionSequence
  <first (00071)>
  <second (Action <name group> <target first:result> )> )
[249-R]: (^HandleChange <original ?A> <new ?B>)
=> { (%GetRootConcept <concept ?A>) -> ?C,
  (%GetIntent <content ?C>) -> ?D,
  (%FindParameter <root ?C> <search ?A>) -> ?E
  (%ReplaceParameter <original ?C> <parameter ?E> <value ?B>) -> ?F
  (#EvaluateChangedConcept <original ?C> <new ?F> <intent ?D> ) }
[250-S]: [00077] = (Procedure <objective (00068)> <procedure (00076)> )
[251-#]: (#EvaluateChangedConcept <original ?A> <new ?B> <intent execute>)
=> ($Confirm <confirmation ?C>)
[252-S]: [00078] = (Change <original (00073)> <new (00077)>)
[253-M]: ($Confirm <confirmation (00078)>)
[254-A]: >> "Ok"
[255-H]: "The group is called a squad."
[256-S]: [00079] = (Nomenclature <usage squad> <meaning 'the group'>)
[257-M]: (@Tell <content (00079)>)
[258-R]: (@Tell <content (Nomenclature:?A)>)
=> (#EvaluateKnowledge <knowledge ?A> <intent learn>)
[259-#]: (#EvaluateKnowledge <knowledge ?A> <intent learn>)
=> ($Confirm <confirmation ?B>)
[260-S]: [00080] = (Knowledge <knowledge (00079)>)
[261-M]: ($Confirm <confirmation (00080)>)
[262-A]: >> "I understand"
[263-H]: "Have the other camp create a squad as well."
[264-S]: [00081] = (Action
  <name create>
  <performer (Modifier <modifier other> <content camp>)>
  <target squad> )
[265-M]: (@Order <orders (00081)>)
[266-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[267-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[268-M]: ($Confirm <confirmation (00081)>)
[269-A]: >> "Ok"
[270-H]: "Make two more squads, one at each camp."
[271-S]: [00082] = (Reference
  <reference one>
  <content (Modifier <modifier each> <content camp> )> )
[272-S]: [00083] = (Action
  <name create>
  <target (Quantity <value 2> <content squad> )>
  <method (00082)> )
[273-M]: (@Order <orders (00083)>)
[274-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[275-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[276-S]: [00084] = (Action <name crete> <performer camp1> <target squad> )
[277-S]: [00085] = (Action <name crete> <performer camp2> <target squad> )
[278-S]: [00086] = (Conjunction <first (00084)> <second (00085)>)
[279-M]: ($Confirm <confirmation (00086)>)
[280-A]: >> "Ok"
[281-H]: "Let's make missiles."
[282-S]: [00087] = (Action <name create> <target missile>)
[283-M]: (@Propose <proposal (00087)>)

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[284-R]: (@Propose <proposal Action:?A>)
=> (#EvaluateProposal <proposal ?A> <intent evaluate>)
[285-#]: (#EvaluateProposal <proposal ?A> <intent evaluate>)
=> ($CounterPropose <original ?A> <proposal ?B>)
[286-S]: [00088] = (Action <name train> <target 'upgraded soldiers'>)
[287-S]: [00089] = (Action <name build> <target hospital>)
[288-S]: [00090] = (ActionSequence <first (00088)> <second (00089)>)+
[289-M]: ++($CounterPropose <original (00087)> <proposal (00090)>)+
[290-A]: >> "No, I think we should train upgraded soldiers, then build a hospital."
[291-H]: "Why?"
[292-S]: [00091] = (Explanation)
[293-M]: (@Query <query (00091)>)
[294-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[295-#]: (#EvaluateQuery <query ?A>)
=> ($Query <query ?B>)
[296-S]: [00092] = (MissingParameter
<content (00091)>
<parameter Explanation:content> )
[297-M]: ++($Query <query (00092)>)+
[298-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
(%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
(%GetIntent <content ?D>) -> ?E,
(^HandleResponse <content ?D> <intent ?E>),
--($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[299-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[300-S]: [00093] = (Explanation
<content ($CounterPropose <original (00087)> <proposal (00090)>)> )
[301-M]: (@Query <query (00093)>)
[302-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[303-#]: (#EvaluateQuery <query ?A>) =>
($Answer <content ?B>)
[304-S]: [00094] = (Plan <objective (00087)>)
[305-S]: [00095] = (Plan <objective (00090)>)
[306-S]: [00096] = (Timespan <value (00094):duration:minimum>)
[307-S]: [00097] = (Timespan <value (00095):duration:minimum>)
[308-S]: [00098] = (CompareRelation
<relation greater-than>
<reference1 (00096)>
<reference2 (00097)> )
[309-S]: [00099] = (Quantity <value (00094):variation> )
[310-S]: [00100] = (Quantity <value (00095):variation> )
[311-S]: [00101] = (CompareRelation
<relation greater-than>
<reference1 (00099)>
<reference2 (00100)> )
[312-S]: [00102] = (Conjunction <first (00098)> <second (00101)>)
[313-S]: [00103] = (Argument
<givenfact (00096)>
<givenfact (00097)>
<assumefact (00098)>
<givenfact (00099)>
<givenfact (00100)>
<assumefact (00101)>
<conclude (00102)> )
[314-S]: [00104] = (Explanation
<content ($CounterPropose <original (00087)> <proposal (00090)>)>
<explanation (00103)> )
[315-M]: ($Answer <content (00104)>)
[316-A]: >> "Because it is faster and easier than missiles."
[317-H]: "But, I really want missiles."
[318-S]: [00105] = (Desire <objective missile> <magnitude 'really want'>)
[319-S]: [00106] = (Modifier <modifier but> <content (00105)>)
[320-M]: (@Tell <content (00106)>)
[321-R]: { (@Tell <content (Modifier <modifier but> <content ?A>)>),
[?:?B] }
=> (@Reject <rejection ?B> <justification ?A>)
[322-R]: (@Reject <rejection ($Answer <content ?A>)> <justification ?B>)
=> (@Reject <rejection ?A> <justification ?B>) }
[323-S]: [00107] = (@Reject <rejection (00104)> <justification (00105)>)

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[324-R]: (@Reject
  <rejection (Explanation <content ($Propose ?A)>>
    <justification ?B> <intent evaluate>)
  => (#EvaluateRejection <rejection ?B> <justification ?B> <intent evaluate>)
[325-#]: (#EvaluateRejection <proposal ?A> <justification ?B> <intent evaluate>)
  => { ($CounterPropose <original ?A> <proposal ?C>),
    --($CounterPropose <original ?D> <proposal ?A> )-- }
[326-S]: [00108] = (ActionSequence <first (00088)> <second (00087)>)
[327-M]: ++($CounterPropose <original (00090)> <proposal (00108)>)+
[328-A]: >> "How about we train upgraded soldiers then build missiles?"
[329-H]: "Alright, what do we need to do for upgraded soldiers?"
[330-S]: [00109] = (Procedure <objective 'upgraded soldiers'>)
[331-M]: (Conjunction <first (@Accept)> <second (@Query <query (00109)>)>)
[332-R]: (Conjunction <first ?A> <second ?B>)
  => { (?A):resolve#->?C,
    (?B):resolve#->?D,
    (^ResolveConjunction <first ?C> <second ?D> ) }
[333-M]: (@Accept)
[334-R]: { (@Accept !<acceptance ?A>),
  ??($Propose <proposal ?B>)?? }
  => { (@Accept <acceptance ($Propose <proposal ?B>)>),
    --($Propose <proposal ?B>)-- }
[335-M]: (@Accept <acceptance ($Propose <proposal (00108)>)>)
[336-R]: (@Accept <acceptance ($Propose <proposal (Action: ?A)>)>)
  => { (%GetIntent <content ?A> ) -> ?B,
    (#EvaluateAction <action ?A> <intent ?B> ) }
[337-M]: (@Query <query (00109)>)
[338-R]: (@Query <query (Procedure <objective ?A>)>)
  => (#EvaluateQuery <query (Procedure <objective ?A>)>)
[339-M]: (^ResolveConjunction
  <first (#EvaluateAction <action (00108) <intent adopt>)>
  <second (#EvaluateQuery <query (00109)>)> )
[340-R]: { (^ResolveConjunction
  <first (#EvaluateAction <action ?A> <intent adopt>)>
  <second (#EvaluateQuery <query (Procedure <objective ?B>)>)> ) ,
  (%ContainsConcept <content ?A> <contains ?B> ) }
  => { (Plan <objective ?A> ) -> ?C,
    (%FindParameter <root ?C> <search ?B> ) -> ?D,
    (#EvaluateAction <action ?C> <intent adopt>),
    (#EvaluateAction <action ?C> <intent plan> <focus ?D> ) }
[341-S]: [00110] = (Plan <objective (00108)>)
[342-#]: (#EvaluateAction <action ?A> <intent adopt> ) => {}
[343-#]: (#EvaluateAction <action ?A> <intent plan> <focus ?B>)
  => ($Plan <content ?C> <focus ?D>)
[344-S]: [00111] = (Action <name build> <target 'research lab'>)
[345-S]: [00112] = (Action <name research> <target explosives>)
[346-S]: [00113] = (ActionSequence <first (00111)> <second (00112)>)
[347-S]: [00114] = (Action <name research> <target missiles>)
[348-S]: [00115] = (Action <name build> <target 'missile silo'>)
[349-S]: [00116] = (Action <name build> <target 'missile'>)
[350-S]: [00117] = (ActionSequence <first (00114)> <second (00115)> <third (00116)>)
[351-S]: [00118] = (Plan <objective (00088)> <procedure (00113)>)
[352-S]: [00119] = (Plan <objective (00087)> <procedure (00117)>)
[353-S]: [00120] = (Plan
  <objective (00108)>
  <procedure (Sequence <first (00118)> <second (00119)>)> )
[354-M]: ++($Plan <content (00120)> <focus Plan:procedure:first:procedure:first>)+
[355-A]: >> "First, we should build a research lab."
[356-H]: "How about just north of the vault?"
[357-S]: [00121] = (RelativeLocation
  <direction north>
  <distance 'just'>
  <reference vault> )
[358-M]: (@Propose <proposal (00121)>)
[359-R]: { (@Propose <proposal ?A>),
  ??($Plan <content ?B> <focus ?C>)??,
  (!(%Collision <first ?C> <second ?A>)) }
  => { (%GetIntent <content ?B> ) -> ?D,
    (#EvaluateProposal
  <proposal (Refinement <original ?C> <refinement ?A>)>
  <intent ?D> ) }

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[360-#]: (#EvaluateProposal <proposal (?A)> <intent plan>)
=> { ($Answer <content ?B>),
      ($Plan <content ?C> <focus ?D>),
      --($Plan <content ?E> <focus ?F>)-- }
[361-M]: ($Accept <acceptance (00121)>)
[362-A]: >> "Ok"
[363-S]: [00122] = (Action <name build> <target 'research lab'> <location (00121)>)
[364-S]: [00123] = (ActionSequence <first (00122)> <second (00112)>)
[365-S]: [00124] = (Plan <objective (00088)> <procedure (00123)>)
[366-S]: [00125] = (Plan
                   <objective (00108)>
                   <procedure (Sequence <first (00124)> <second (00119)>)> )
[367-M]: ++($Plan <content (00125)> <focus Plan:procedure:first:procedure:second>++)
[368-A]: >> "Then, we'll need to research explosives."
[369-H]: "Go attack the enemy."
[370-S]: [00126] = (Action <name attack> <target opponent>)
[371-M]: (@Order <orders (00126)>)
[372-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[373-#]: (#EvaluateAction <action ?A> <intent execute>)
=> { ($Query <query ?B>)
[374-S]: [00127] = (Action
                   <name attack>
                   <performer (Quantity <content soldier>)
                   <target opponent> )
[375-S]: [00128] = (QueryParameter
                   <content (00127)>
                   <parameter Action:performer:Quantity:value> )
[376-M]: ++($Query <query (00128)>++)
[377-A]: >> "How many soldiers should go?"
[378-H]: "Everyone."
[379-S]: [00129] = (Quantity <value all> <content person>)
[380-M]: (@Tell <content (00129)>)
[381-R]: { (@Tell <content ?A>),
           ??($Query <query ?B>)??,
           (#QueryResponseMatch <query ?B> <response ?A> ) }
=> { (^RewriteQuery <query ?B> <response ?A>) -> ?C,
      (%GetIntent <content ?C>) -> ?D,
      (^HandleResponse <content ?C> <intent ?D>),
      --($Query <query ?B>)-- }
[382-R]: (^RewriteQuery
          <query (MissingParameter <content ?A> <parameter ?B> )>
          <response ?C> )
-> (%AddParameter <original ?A> <parameter ?B> <value ?C>)
[383-R]: (^HandleResponse <Action:?A> <intent ?B>)
=> (#EvaluateAction <action ?A> <intent ?B>)
[384-#]: (#EvaluateAction <action ?A> <intent execute>) =>
($Confirm <confirmation ?A>)
[385-S]: [00130] = (Action
                   <name attack>
                   <performer (Quantity <value all> <content soldier>)
                   <target opponent> )
[386-M]: ($Confirm <confirmation (00130)>)
[387-A]: >> "Ok"
[388-H]: "Make two more squads at each camp."
[389-S]: [00131] = (Quantity <value 2> <content squad>)
[390-S]: [00132] = (Modifier <modifier each> <content camp>)
[391-S]: [00133] = (Action <name create> <target (00131)> <location (00132)>)
[392-M]: (@Order <orders (00133)>)
[393-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[394-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[395-S]: [00134] = (Action <name crete> <performer camp1> <target (00131)> )
[396-S]: [00135] = (Action <name crete> <performer camp2> <target (00131)> )
[397-S]: [00136] = (Conjunction <first (00134)> <second (00135)>)
[398-M]: ($Confirm <confirmation (00136)>)
[399-A]: >> "Ok"
[400-H]: "Where were we?"
[401-M]: (@Query <query (Focus)>)
[402-R]: { (@Query <query (Focus)>),

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    ??(?A)?? }
=> { (%GetIntent <content ?A>) -> ?B,
      (^HandleFocus <content ?A> <intent ?B>),
      (?A) }
[403-R]: (^HandleFocus <content ?A> <intent plan>)
=> (@Tell <content ?A>)
[404-M]: ($Tell <content (00125)>)
[405-A]: >> "We were planning to build a research lab just north of the vault."
[406-M]: ++($Plan <content (00125)> <focus Plan:procedure:first:procedure:second>)+
[407-A]: >> "We then need to research explosives with it."
[408-H]: "Sounds good. How long will it take?"
[409-S]: [00137] = (Timespan <begin now> <end (Event <event it> <type completion>)> )
[410-S]: [00138] = (QueryParameter <content (00137)> <parameter Timespan:value>)
[411-M]: (Conjunction <first (@Accept)> <second (@Query <query (00138)>)> )
[412-R]: (Conjunction <first ?A> <second ?B>)
=> { (?A):resolve#->?C,
      (?B):resolve#->?D,
      (^ResolveConjunction <first ?C> <second ?D> ) }
[413-M]: (@Approve)
[414-R]: { (@Approve !<content ?A>),
          ??($Plan <content ?B> <focus ?C>)??,
          (!(%Collision <first ?C> <second ?A>)) }
=> { (@Approve <content ?C>),
      --($Plan <content ?B> <focus ?C>)-- }
[415-M]: (@Approve <content (00112)>)
[416-R]: (@Approve <content (Action:?A)>)
=> { (%GetIntent <content ?A>) -> ?B,
      (#EvaluateAction <action ?A> <intent ?B> ) }
[417-M]: (@Query <query (00138)>)
[418-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[419-M]: (^ResolveConjunction
          <first (#EvaluateAction <action (00112) <intent adopt>)>
          <second (#EvaluateQuery <query (00138)>)> )
[420-R]: (^ResolveConjunction <first (?:?A)> <second (?:?B)>) => { (?A), (?B) }
[421-#]: (#EvaluateAction <action ?A> <intent adopt>) => {}
[422-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[423-S]: [00139] = (Quantity <value 1630> <content cycles>)
[424-S]: [00140] = (Timespan
                  <begin now>
                  <end (Event <event (00124)> <type completion>)>
                  <value (00139)>)
[425-M]: ($Answer <content (00140)>)
[426-A]: >> "1630 cycles."
[427-H]: "Ok, do it."
[428-M]: (Conjunction <first (@Acknowledge)> <second (@Execute <content it>)> )
[429-R]: (Conjunction <first ?A> <second ?B>)
=> { (?A):resolve#->?C,
      (?B):resolve#->?D,
      (^ResolveConjunction <first ?C> <second ?D> ) }
[430-M]: (@Acknowledge)
[431-R]: (@Acknowledge) => {}
[432-M]: (@Execute <content it>)
[433-R]: { (@Execute !<content ?A>),
          [(Action|Plan|Procedure: ?B)] }
=> (#EvaluateAction <action ?B> <intent execute>)
[434-M]: (^ResolveConjunction <first ({})> <second ?A>) => (?A)
[435-#]: (#EvaluateAction <action ?A> <intent execute>)
=> (Confirm <confirmation ?B>)
[436-M]: ($Confirm <confirmation (00124)>)
[437-A]: >> "Ok"
[438-H]: "Then what do we have to do to build missiles?"
[439-S]: [00141] = (Action <name build> <target missile>)
[440-S]: [00142] = (Procedure <objective (00141)>)
[441-S]: [00143] = (Modifier <modifier then> <content (00142)>)
[442-M]: (@Query <query (00143)>)
[443-R]: (@Query <query (Modifier <modifier then> <content ?A>)>)
=> (@Query <query ?A>)
[444-M]: (@Query <query (00142)>)
[445-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[446-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[447-M]: ($Answer <content (00117)>)

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[448-A]: >> "First, we have to research missiles in the research lab."
[449-A]: >> "Then, we have to build a missile silo."
[450-A]: >> "Finally, we have to build a missile."
[451-H]: "How long until we can start building a silo?"
[452-S]: [00144] = (Event <event (Action <name build> <target silo>)>) <type capable>
[453-S]: [00145] = (Timespan <begin now> <end (00144)> <type completed>)
[454-S]: [00146] = (QueryParameter <content (00145)> <parameter Timespan:value>)
[455-M]: (@Query <query (00146)>)
[456-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[457-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[458-S]: [00147] = (Quantity <value 3500> <name cycles> <accuracy approx>)
[459-S]: [00148] = (Timespan <begin now> <end (00144)> <type completed> <value (00147)>)
[460-M]: ($Answer <content (00148)>)
[461-A]: >> "Approximately 3500 cycles."
[462-H]: "Forget it!"
[463-M]: (@Abandon <content it>)
[464-R]: { (@Abandon !<content ?A>),
           [(Action|Plan|Procedure:?B)] }
           => (#EvaluateAction <action ?B> <intent abandon>)
[465-S]: [00149] = ($Abandon <content (00117)>)
[466-M]: ($Confirm <confirmation (00149)>)
[467-H]: "How long does it take to build a squad?"
[468-S]: [00150] = (Action <name build> <target squad>)
[469-S]: [00151] = (Procedure <objective (00150)>)
[470-S]: [00152] = (QueryParameter <content (00151)> <parameter Procedure:duration>)
[471-M]: (@Query <query (00152)>)
[472-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[473-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[474-S]: [00153] = (Quantity <value 860> <name cycles> <accuracy approx>)
[475-S]: [00154] = (Procedure <objective (00150)> <duration (00153)>)
[476-M]: ($Answer <content (00154)>)
[477-A]: >> "Approximately 860 cycles."
[478-H]: "That's not good enough!"
[479-M]: (@Assert <content dissatisfaction>)
[480-R]: { (@Assert <content dissatisfaction>),
           [?:?A] }
           => (^HandleFeedback <content ?A> <feedback dissatisfied> )
[481-R]: (^HandleFeedback <content ?A> <feedback dissatisfied>)
           => { (%GetFocus ?A) -> ?B,
               (Problem <content ?A> <focus ?B> <type dissatisfied>) -> ?C,
               (#EvaluateProblem <content ?C> <intent fix>) }
[482-S]: [00155] = (Problem
                   <content (00154)>
                   <focus Procedure:duration>
                   <type dissatisfied>)
[483-#]: (#EvaluateProblem <content (Problem ?A)> <intent fix>)
           => ($Propose <proposal ?B>)
[484-S]: [00156] = (Action
                   <name build>
                   <target (Modifier <modifier more> <content 'training camp')>)
[485-S]: [00157] = (Solution <problem (00155)> <solution (00156)>)
[486-M]: ($Propose <proposal (00157)>)
[487-A]: >> "We could build more training camps."
[488-H]: "Take care of it."
[489-M]: (@ShiftAutonomy <content it> <responsible agent>)
[490-R]: { (@ShiftAutonomy <content it> <responsible ?A>),
           [(Action|Plan|Procedure:?B)] }
           => (#EvaluateAutonomicShift <content ?B> <responsible ?A>)
[491-R]: (#EvaluateAutonomicShift <content ?A> <responsible ?B>)
           => ($Confirm <confirmation ?C>)
[492-S]: [00158] = (AutonomicShift <content (00157)> <responsible agent>)
[493-M]: ($Confirm (00158))
[494-A]: >> "Ok"
[495-#]: (#EvaluateAction <content ?A> <intent execute>)
           => ($Warn <content ?A>)
[496-S]: [00159] = (RestrictionQuantity <content resources> <polarity insufficient>)
[497-S]: [00160] = (ConsequenceOf <content (00156)> <consequence (00159)>)
[498-M]: ($Warn <content (00160)>)
[499-A]: >> "We are going to run low on resources if we build more troops."
[500-H]: "Then train more engineers."
[501-S]: [00161] = (Action

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        <name train>
        <target (Modifier <modifier more> <content engineer>)> )
[502-S]: [00162] = (Modifier <modifier then> <content (00161)>)
[503-M]: (@Order <orders (00162)>)
[504-R]: { (@Order <orders (Modifier <modifier then> <content ?A>)>),
          [ $Warn: ?B ],
          (%GetIntent <content ?B>) -> ?C }
=> (#EvaluateAction <action ?A> <intent ?C>)
[505-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Query <query ?B>)
[506-S]: [00163] = (Action <name mine>)
[507-S]: [00164] = (Action
  <name train>
  <target (Quantity <content engineer>)>
  <intent (00163)> )
[508-S]: [00165] = (MissingParameter
  <content (00164)>
  <parameter Action:target:Quantity:value>)
[509-S]: [00166] = (MissingParameter <content (00163)> <parameter Action:target>)
[510-S]: [00167] = (Conjunction <first (00165)> <second (00166)>)
[511-M]: ++($Query <query (00167)>)+
[512-A]: >> "How many? What should they mine?"
[513-H]: "You decide."
[514-M]: (@ShiftAutonomy <content answer> <responsible agent>)
[515-R]: { (@ShiftAutonomy <content answer <responsible ?A>),
          ??($Query <query ?B>)? }
=> { (#EvaluateAutonomicShift <content ?B> <responsible ?A>),
      --($Query <query ?B>)-- }
[516-#]: (#EvaluateAutonomicShift <content ?A> <responsible ?B>)
=> ($Confirm <confirmation ?C>)
[517-S]: [00168] = (AutonomicShift <content (00167)> <responsible agent>)
[518-M]: ($Confirm <confirmation (00168)>)
[519-A]: >> "Ok"
[520-H]: "Whenever a squad is ready, have it attack the enemy."
[521-S]: [00169] = (Event <event squad> <type created>)
[522-S]: [00170] = (Action <name attack> <target opponent> <performer it>)
[523-S]: [00171] = (ContinualAction <condition (00169)> <action (00170)>)
[524-M]: (@Order <orders (00171)>)
[525-R]: (@Order <orders Action: ?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[526-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[527-M]: ($Confirm <confirmation (00171)>)
[528-A]: >> "Ok"
[529-S]: [00172] = (Event <event (00157)> <type completion>)
[530-M]: ($Notify <notification (00172)>)
[531-A]: >> "We can now make squads twice as fast."
[532-S]: [00173] = (Event <event (00124)> <type completion>)
[533-M]: ($Notify <notification (00173)>)
[534-A]: >> "We have finished researching explosives."
[535-S]: [00174] = (Action
  <name train>
  <target (Quantity <value 6> <content 'upgraded soldier')> )
[536-S]: [00175] = (ActionSequence
  <first (00174)>
  <second (Action <name group> target first:result)> )
[537-S]: [00176] = (Procedure <objective (00068)> <procedure (00175)>)
[538-S]: [00177] = (Modification <original (00073)> <modified (00176)>)
[539-M]: ++($Propose <proposal (00177)>)+
[540-A]: >> "Shall we incorporate upgraded soldiers in new squads?"
[541-H]: "Yes"
[542-M]: (@Answer <polarity affirmative>)
[543-R]: { (@Answer <polarity affirmative>),
          ??($Propose <proposal ?A>)? }
=> { (@Accept <acceptance ($Propose <proposal ?A>)>),
      --($Propose <proposal ?A>)-- }
[544-M]: (@Accept <acceptance ($Propose <proposal (00177)>)>)
[545-R]: (@Accept <acceptance ($Propose
  <proposal (Modification <original ?A> <modified ?B> )> )> )
=> { (%GetIntent <content ?A>) -> ?C,
      (#EvaluateAction <action ?B> <intent ?C>) }

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[546-#]: (#EvaluateAction <action ?A> <intent procedural>)
=> ($Confirm <confirmation ?B>)
[547-M]: ($Confirm <confirmation (00177)>)
[548-A]: >> "Ok"
[549-H]: "Make squads as necessary."
[550-S]: [00178] = (Action <name create> <target squad>)
[551-S]: [00179] = (ContinualAction <condition whenever-necessary> <action (00178)>)
[552-M]: (@Order <orders (00179)>)
[553-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[554-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[555-M]: ($Confirm <confirmation (00179)>)
[556-A]: >> "Ok"
[557-H]: "How many training camps do we have?"
[558-S]: [00180] = (Modifier <modifier our> <content 'training camp'>)
[559-S]: [00181] = (Quantity <content (00180)>)
[560-S]: [00182] = (QueryParameter <content (00181)> <parameter Quantity:value>)
[561-M]: (@Query <query (00182)>)
[562-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[563-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[564-S]: [00183] = (Quantity <value 4> <content (00180)>)
[565-M]: ($Answer <content (00183)> )
[566-A]: >> "4"
[567-H]: "But there were two before."
[568-S]: [00184] = (Quantity <value 2>)
[569-S]: [00185] = (StateInTime <time before> <content (00184)>)
[570-S]: [00186] = (Modifier <modifier but> <content (00185)>)
[571-M]: (@Tell <content (00186)>)
[572-R]: { (@Tell <content (Modifier <modifier but> <content ?A>)>),
[$:?B] }
=> (@Reject <rejection ?B> <justification ?A>)
[573-R]: (@Reject <rejection ($Answer <content ?A>) <justification ?B>)
=> (@Reject <rejection ?A> <justification ?B> ) }
[574-S]: [00187] = (@Reject <rejection (00183)> <justification (00185)>)
[575-R]: (@Reject <rejection ?A> <justification ?B>)
=> (#EvaluateRejection <rejection ?A> <justification ?B>)
[576-#]: (#EvaluateRejection <rejection ?A> <justification ?B>)
=> ($Answer <content ?C>)
[577-S]: [00188] = (StateInTime <time now> <content (00183)>)
[578-S]: [00189] = (Quantity <value 2> <content (00180)>)
[579-S]: [00190] = (StateInTime <time before> <content (00189)>)
[580-S]: [00191] = (StateChange <from (00190)> <to (00188)>)
[581-M]: ($Answer <content (00191)>)
[582-A]: >> "Now there are four."
[583-H]: "What happened?"
[584-S]: [00192] = (Explanation)
[585-M]: (@Query <query (00192)>)
[586-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[587-#]: (#EvaluateQuery <query ?A>) => ($Query <query ?B>)
[588-S]: [00193] = (MissingParameter
<content (00192)>
<parameter Explanation:content> )
[589-M]: ++($Query <query (00038)>)+
[590-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
(%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
(%GetIntent <content ?D>) -> ?E,
(^HandleResponse <content ?D> <intent ?E>),
--($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[591-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[592-S]: [00194] = (Explanation
<content ($Answer <content (00191)>)> )
[593-M]: (@Query <query (00194)>)
[594-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[595-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[596-S]: [00195] = (Explanation
<content ($Answer <content (00191)>
<explanation (00157)> )
[597-M]: ($Answer <content (00195)>)

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[598-A]: >> "I built two."
[599-H]: "Why?"
[600-S]: [00196] = (Explanation)
[601-M]: (@Query <query (00196)>)
[602-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[603-#]: (#EvaluateQuery <query ?A>) => ($Query <query ?B>)
[604-S]: [00197] = (MissingParameter
  <content (00196)>
  <parameter Explanation:content> )
[605-M]: ++($Query <query (00038)>)+
[606-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[607-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[608-S]: [00198] = (Explanation
  <content ($Answer <content (00195)>)> )
[609-M]: (@Query <query (00194)>)
[610-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[611-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[612-S]: [00199] = (Explanation
  <content (00195)>
  <explanation (00155)> )
[613-M]: ($Answer <content (00199)>)
[614-A]: >> "In order to build squads faster."
[615-H]: "Who told you that you could?"
[616-S]: [00200] = (Permission <responsible agent>)
[617-S]: [00201] = (QueryParameter <content (00200)> <parameter Permission:authority>)
[618-M]: (@Query <query (00201)>)
[619-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[620-#]: (#EvaluateQuery <query ?A>) => ($Query <query ?B>)
[621-S]: [00202] = (MissingParameter
  <content (00201)>
  <parameter QueryParameter:content:Permission:content> )
[622-M]: ++($Query <query (00202)>)+
[623-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[624-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[625-S]: [00203] = (Permission
  <content (00156)>
  <responsible agent> )
[626-S]: [00204] = (QueryParameter <content (00203)> <parameter Permission:authority>)
[627-M]: (@Query <query (00204)>)
[628-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[629-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[630-S]: [00205] = (Permission
  <content (00156)>
  <responsible agent>
  <authority human> )
[631-M]: ($Answer <content (00205)>)
[632-A]: >> "You did."
[633-H]: "No, I didn't."
[634-M]: (@Answer <polarity negative>)
[635-R]: { (@Answer <polarity negative>),
  [?:?B] }
=> (@Reject <rejection ?B>)
[636-R]: (@Reject <rejection ($Answer <content ?A>)>)
=> (@Reject <rejection ?A> ) }
[637-S]: [00206] = (@Reject <rejection (00205)>)
[638-R]: (@Reject <rejection ?A>) => (#EvaluateRejection <rejection ?A>)
[639-#]: (#EvaluateRejection <rejection ?A>)
=> ($Answer <content ?C>)
[640-S]: [00207] = (Interpretation

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        <content (00158)>
[641-S]: [00208] = (Explanation
        <content (00205)>
        <explanation (00207)>
[642-M]: ($Answer <content (00208)>)
[643-A]: >> "Oh, I thought that's what 'Take care of it.' meant."
[644-H]: "Yes, you are right."
[645-S]: [00209] = (Affirmation <type agree>)
[646-M]: (@Assert <content (00209)>)
[647-R]: { (@Assert <content (Affirmation <type correctness>)>),
        [$Answer:?B] }
        => (@Accept <acceptance ?B>)
[648-R]: (@Accept <acceptance ($Answer <content ?A>)>)
        => (@Accept <acceptance ?A>) }
[649-S]: [00210] = (@Accept <acceptance (00210)>)
[650-R]: (@Accept <acceptance ?A>) => (#EvaluateAcceptance <acceptance ?A>)
[651-#]: (#EvaluateAcceptance <acceptance ?A>) => {}
[652-H]: "How many engineers do we have?"
[653-S]: [00211] = (Modifier <modifier our> <content engineer>)
[654-S]: [00212] = (Quantity <content (00211)>)
[655-S]: [00213] = (QueryParameter <content (00212)> <parameter Quantity:value>)
[656-M]: (@Query <query (00213)>)
[657-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[658-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[659-S]: [00214] = (Quantity <value 23> <content (00211)>)
[660-M]: ($Answer <content (00214)> )
[661-A]: >> "23."
[662-H]: "What are they doing?"
[663-S]: [00215] = (Action <performer they>)
[664-S]: [00216] = (QueryParameter <content (00215)> <parameter Action:name>)
[665-M]: (@Query <query (00216)>)
[666-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[667-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[668-S]: [00217] = (Quantity <value 13> <content engineer>)
[669-S]: [00218] = (Quantity <value 7> <content engineer>)
[670-S]: [00219] = (Quantity <value 3> <content engineer>)
[671-S]: [00220] = (Action <name mine> <target crystal> <performer (00217)>)
[672-S]: [00221] = (Action <name mine> <target titanium> <performer (00218)>)
[673-S]: [00222] = (Action <name stand> <performer (00219)>)
[674-S]: [00223] = (Conjunction <first (00220)> <second (00221)>)
[675-S]: [00224] = (Conjunction <first (00223)> <second (00222)>)
[676-M]: ($Answer <content (00224)> )
[677-A]: >> "13 are mining crystal, 7 are mining titanium and 3 are standing."
[678-H]: "Show me the ones that are standing."
[679-S]: [00225] = (Subset
        <superset (Reference <reference ones>)>
        <restriction (Action <name standing>)> )
[680-S]: [00226] = (Action <name present> <target (00225)>)
[681-M]: (@Orders <order (00226)>)
[682-R]: (@Order <orders Action:?A>)
        => (#EvaluateAction <action ?A> <intent execute>) }
[683-#]: (#EvaluateAction <action ?A> <intent execute>)
        => ($Query <query ?B> )
[684-S]: [00227] = (MissingParameter
        <content (00225)>
        <parameter Subset:superset>
[685-M]: ++($Query <query (00034)>)+
[686-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
        (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
        => { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
        (%GetIntent <content ?D>) -> ?E,
        (^HandleResponse <content ?D> <intent ?E>),
        --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[687-R]: (^HandleResponse <content ?A> <intent execute>)
        => (@Order <orders ?A>)
[688-S]: [00228] = (Subset
        <superset (00224)>
        <restriction (Action <name standing>)> )
[689-M]: (@Order <orders (Action <name present> <target (00228)>)>)
[690-R]: (@Order <orders Action:?A>)
        => (#EvaluateAction <action ?A> <intent execute>)

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[691-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Confirm <confirmation ?A>)
[692-S]: [00229] = (EnumeratedSet
  <first engineer16>
  <second engineer8>
  <third engineer9>)
[693-S]: [00230] = (Action <name present> <target (00229)> <focus EnumeratedSet:first>)
[694-M]: ($Confirm <confirmation (00230)>)
[695-D]: ``Engineer 'engineer16' is shown on the screen and highlighted.``
[696-A]: >> "Here is the first."
[697-H]: "What is its history?"
[698-S]: [00231] = (QueryParameter <content it> <parameter it:history>)
[699-M]: (@Query <query (00231)>)
[700-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[701-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[702-S]: [00232] = (Object <name engineer16> <history (00015)>)
[703-M]: ($Answer <content (00232)>)
[704-A]: >> "It has built 2 generators."
[705-H]: "Mine titanium"
[706-S]: [00233] = (Action <name mine> <target titanium>)
[707-M]: (@Orders <order (00233)>)
[708-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[709-#]: (#EvaluateAction <action ?A> <intent execute>)
=> ($Query <query ?B>)
[710-S]: [00234] = (MissingParameter
  <content (00233)>
  <parameter Action:performer> )
[711-M]: ++($Query <query (00066)>)+
[712-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[713-S]: [00235] = (Action <name mine> <target titanium> <performer engineer16>)
[714-R]: (^HandleResponse <content (Action:?A)> <intent ?B>)
=> (#EvaluateAction <action ?A> <intent ?B>)
[715-#]: (#EvaluateAction <action ?A> <intent execute>)
=> { ($Reject <rejection ?A> <justification ?B>),
  ($Propose
    <proposal (Modification
      <original ?A> <modified ?C>)> ) }
[716-S]: [00236] = (RestrictionQuantity
  <content energy>
  <polarity insufficient> )
[717-M]: ($Reject <rejection (00235)> <justification (00236)>)
[718-A]: >> "But we are almost out of energy."
[719-S]: [00237] = (ActionSequence
  <first (Action
    <name build>
    <target (Quantity <value 2> <content generator>)>
    <performer engineer16> )>
  <second (00235)> )
[720-S]: [00238] = (Modification
  <original (00235)>
  <modified (00237)> )
[721-M]: ++($Propose <proposal (00238)>)+
[722-A]: >> "We should have the engineer build two more first."
[723-H]: "Ok"
[724-M]: (@Acknowledge)
[725-R]: { (@Acknowledge),
  ??($Propose <proposal ?A>)? }
=> { (@Accept <content ($Propose <proposal ?A>)>),
  --($Propose <proposal ?A>)-- }
[726-M]: (@Accept <content ($Propose <proposal (00004)>)>)
[727-R]: (@Accept <content ($Propose
  <proposal (Modification <original ?A> <modified ?B> )> )>)
=> { (%GetIntent <content ?A>) -> ?C,
  (#EvaluateAction <action ?B> <intent ?C>) }
[728-#]: (#EvaluateAction <action ?A> <intent execute>) => {}

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[729-H]: "Next"
[730-M]: (@Order <orders (Action <name advance>)>)
[731-R]: { (@Order <orders (Action <name advance>)>),
  [(Action:?A <name present>)] }
  => (^Advance <content ?A>)
[732-R]: (^Advance <content (Action <name present> <target ?A> <focus ?B>)>
  => { (%GetNextInSet <set ?A> <focus ?B>) -> ?C,
    (@Order <orders (Action <name present> <target ?A> <focus ?C>)> ) }
[733-R]: (@Order <orders Action:?A>)
  => (#EvaluateAction <action ?A> <intent execute>)
[734-#]: (#EvaluateAction <action ?A> <intent execute>)
  => ($Confirm <confirmation ?A>)
[735-S]: [00239] = (Action <name present> <target (00229)> <focus EnumeratedSet:second>)
[736-M]: ($Confirm <confirmation (00239)>)
[737-D]: ``Engineer 'engineer8' is shown on the screen and highlighted.''
[738-H]: "This history?"
[739-S]: [00240] = (QueryParameter <content this> <parameter this:history>)
[740-M]: (@Query <query (00240)>)
[741-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[742-#]: (#EvaluateQuery <query ?A>) => ($Answer <content ?B>)
[743-S]: [00241] = (Proximity <reference camp0> <distance near>)
[744-S]: [00242] = (Action <name build> <target 'training camp'> <location (00241)> )
[745-S]: [00243] = (ActionSequence <first (00022)> <second (00122)> <third (00242)> )
[746-S]: [00244] = (Object <name engineer8> <history (00243)>)
[747-M]: ($Answer <content (00244)>)
[748-A]: >> "First, this engineer built a training camp in the northeast."
[749-A]: >> "Then, it built the research lab just north of the vault"
[750-A]: >> "Finally, it built another training camp near the first."
[751-H]: "How many are left?"
[752-S]: [00245] = (Subset <restriction remaining>)
[753-S]: [00246] = (QueryParameter
  <content (00245)>
  <parameter Subset:cardinality> )
[754-M]: (@Query <query (00246)>)
[755-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[756-#]: (#EvaluateQuery <query ?A>)
  => ($Query <query ?B>)
[757-S]: [00247] = (MissingParameter
  <content (00246)>
  <parameter content:Subset:superset> )
[758-M]: ++($Query <query (00034)>)+
[759-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
  => { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[760-R]: (^HandleResponse <content ?A> <intent query>)
  => (@Query <query ?A>)
[761-S]: [00248] = (Subset
  <superset (00229)>
  <restriction remaining> )
[762-S]: [00249] = (QueryParameter
  <content (00248)>
  <parameter Subset:cardinality> )
[763-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[764-#]: (#EvaluateQuery <query ?A>)
  => ($Answer <content ?B>)
[765-S]: [00250] = (Subset
  <superset (00229)>
  <restriction remaining>
  <cardinality 1> )
[766-M]: ($Answer <content (00250)>)
[767-A]: >> "One more."
[768-H]: "Show me"
[769-S]: [00251] = (Action <name present>)
[770-M]: (@Order <orders (00251)>)
[771-R]: (@Order <orders Action:?A>)
  => (#EvaluateAction <action ?A> <intent execute>)
[772-#]: (#EvaluateAction <action ?A> <intent execute>)
  => ($Query <query ?B>)

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[773-S]: [00252] = (MissingParameter
  <content (00251)>
  <parameter Action:target> )
[774-M]: ++($Query <query (00034)>)+
[775-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[776-R]: (^HandleResponse <content ?A> <intent execute>)
=> (@Order <orders ?A>)
[777-S]: [00253] = (Action
  <name present>
  <target (00229):third> )
[778-R]: (@Order <orders Action:?A>)
=> (#EvaluateAction <action ?A> <intent execute>)
[779-#]: (#EvaluateAction <action ?A> <intent execute>)
=> { ($Confirm <confirmation ?B>),
  ($Tell <content ?C> ) }
[780-S]: [00254] = (Action <name present> <target (00229)> <focus EnumeratedSet:third>)
[781-M]: ($Confirm <confirmation (00254)>)
[782-D]: ``Engineer 'engineer9' is shown on the screen and highlighted.``
[783-S]: [00255] = (Proximity <reference camp1> <distance near>)
[784-S]: [00256] = (Action <name build> <target 'training camp'> <location (00255)>)
[785-S]: [00257] = (ActionSequence <first (00027)> <second (00256)>)
[786-M]: ($Tell <content (00257)>)
[787-A]: >> "This engineer built a training camp in the south."
[788-A]: >> "Then, this engineer built another training camp near the first."
[789-H]: "How many engineers are left?"
[790-S]: [00258] = (Subset
  <superset (Reference <reference engineers>)>
  <restriction remaining> )
[791-S]: [00259] = (QueryParameter
  <content (00258)>
  <parameter Set:cardinality> )
[792-M]: (@Query <query (00259)>)
[793-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[794-#]: (#EvaluateQuery <query ?A>)
=> ($Query <query ?B>)
[795-S]: [00260] = (MissingParameter
  <content (00259)>
  <parameter content:Subset:superset> )
[796-M]: ++($Query <query (00034)>)+
[797-R]: { ($Query <query (QueryParameter <content ?A> <parameter ?B>)>),
  (%ParameterMatchInFocus <content ?A> <parameter ?B>) -> ?C }
=> { (%AddParameter <original ?A> <parameter ?B> <value ?C>) -> ?D ),
  (%GetIntent <content ?D>) -> ?E,
  (^HandleResponse <content ?D> <intent ?E>),
  --($Query <query (QueryParameter <content ?A> <parameter ?B>)>)-- }
[798-R]: (^HandleResponse <content ?A> <intent query>)
=> (@Query <query ?A>)
[799-S]: [00261] = (Subset <superset (00229)> <restriction remaining> )
[800-S]: [00262] = (QueryParameter
  <content (00261)>
  <parameter Subset:cardinality> )
[801-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[802-#]: (#EvaluateQuery <query ?A>)
=> ($Answer <content ?B>)
[803-S]: [00263] = (Subset
  <superset (00229)>
  <restriction remaining>
  <cardinality 0> )
[804-M]: ($Answer <content (00263)>)
[805-A]: >> "You have seen all of the engineers that are standing."
[806-H]: "No, I mean in the game."
[807-S]: [00264] = (CompareRelation <relationship in> <reference2 game>)
[808-S]: [00265] = (Meaning <meaning (00264)>)
[809-M]: (Conjunction
  <first (@Answer <polarity negative>)>
  <second (@Assert <content (00265)>)> )

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[810-R]: (Conjunction <first ?A> <second ?B>)
=> { (?A):resolve#->?C,
      (?B):resolve#->?D,
      (^ResolveConjunction <first ?C> <second ?D>) }
[811-M]: (@Answer <polarity negative>)
[812-R]: { (@Answer <polarity negative>),
          [?:?B] }
=> (@Reject <rejection ?B>)
[813-R]: (@Reject <rejection ($Answer <content ?A>)>)
=> (@Reject <rejection ?A>) }
[814-S]: [00266] = (@Reject <rejection (00263)>)
[815-R]: (@Reject <rejection ?A>) => (#EvaluateRejection <rejection ?A>)
[816-M]: (@Assert <content (00265)>)
[817-R]: { (@Assert <content (Meaning <meaning ?A> !<content ?B>)>),
          [?:?C] }
=> (#ApplyMeaning <content ?C> <meaning ?A>)
[818-M]: (^ResolveConjunction
          <first (#EvaluateRejection <rejection (00263)>)>
          <second (#ApplyMeaning
                  <content (@Query <query (00259)>)>
                  <meaning (00264)>)> )
[819-R]: { (^ResolveConjunction
          <first (#EvaluateRejection <rejection ?A>)>
          <second (#ApplyMeaning <content ?B> <meaning ?C>)> ) ,
          (%GetGenerator <content ?A>) -> ?D,
          (= <first ?B> <second ?D> ) }
=> { (%GetIntent <content ?B>) -> ?E,
      (%Merge <first ?B> <second ?C>) -> ?F,
      (^HandleReinterpretation <content ?F> <intent ?E>) }
[820-S]: [00267] = (Subset <superset engineers> <restriction (00264)>)
[821-S]: [00268] = (Subset <superset (00278)> <restriction remaining>)
[822-S]: [00269] = (QueryParameter <content (00268)> <parameter Subset:cardinality>)
[823-R]: (^HandleReinterpretation <content ?A> <intent query>)
=> (@Query <query ?A>)
[824-M]: (@Query <query (00269)>)
[825-R]: (@Query <query ?A>) => (#EvaluateQuery <query ?A>)
[826-#]: (#EvaluateQuery <query ?A>)
=> ($Answer <content ?B>)
[827-S]: [00270] = (CompareRelation
          <relationship in>
          <referencel thing>
          <reference2 game>)
[828-S]: [00271] = (Subset
          <superset engineers>
          <restriction (00264)>
          <cardinality 23>)
[829-M]: ($Answer <content (00271)>)
[830-A]: >> "There are 23 engineers alive."

```