This document contains the appendices, providing the stimulus materials, for the four studies reported in Gonnerman, Mortensen, and Robbins, "KNOWING HOW as a Philosophical Hybrid", *Synthese*.

Appendix A

Stimulus Materials used in Study 1

[Participants were randomly assigned to one of two cases: MEDICAL DIAGNOSIS or CONDITIONAL PROOF.]

[*First case: MEDICAL DIAGNOSIS*]

Multiple factors go into any application decision for this program. One of these is whether the applicant knows how to diagnosis an autoimmune disorder called Schnitzler syndrome. [¶] The way to diagnose Schnitzler syndrome is to look for signs of urticarial eruptions, recurrent fevers, and relapsing arthralgia. We'll call this way of diagnosing the syndrome "w". [¶] Coming into their admissions interview, Amber, Brenda, Carrie, and Diana had each heard of Schnitzler syndrome. But none of them had ever tried diagnosing the syndrome before. Still they were excited to give it a try, even when they were informed that they would have to diagnosis twenty people in a row who may or may not have the syndrome while getting no feedback as to whether they are getting the diagnosis correct. [¶] What follows are the admission officer's notes. Assuming that these notes are accurate, do you agree or disagree that the applicant knows how to diagnose Schnitzler syndrome?

[The following four descriptions were counterbalanced.]

Amber: [¶] - Believes that w is the way to diagnose Schnitzler syndrome. Has very good reason for believing this, having learned this fact from someone very experienced in autoimmune disorders. [¶] - Correctly diagnosed 9 out of 10 people with Schnitzler syndrome. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Amber knows how to diagnose Schnitzler syndrome.

Brenda: [¶] - Believes that w is the way to diagnose Schnitzler syndrome. Has very good reason for believing this, having learned this fact from someone very experienced in autoimmune disorders. [¶] - Correctly diagnosed 1 out of 10 people with Schnitzler syndrome. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Brenda knows how to diagnose Schnitzler syndrome.

Carrie: [¶] - Believes that w is the way to diagnose Schnitzler syndrome. Has very poor reason for believing this, having learned this fact from someone very inexperienced in autoimmune disorders. [¶] - Correctly diagnosed 9 out of 10 people with Schnitzler syndrome. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Carrie knows how to diagnose Schnitzler syndrome.

Diana: [¶] - Believes that w is the way to diagnose Schnitzler syndrome. Has very poor reason for believing this, having learned this fact from someone very inexperienced in autoimmune disorders. [¶] - Correctly diagnosed 1 out of 10 people with Schnitzler syndrome. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Diana knows how to diagnose Schnitzler syndrome.

[Responses for all know-how questions were recorded on a seven-point scale: 1 = strongly disagree, 2 = disagree, 3 = mildly disagree, 4 = neither agree nor disagree, 5 = mildly agree, 6 = agree, 7 = strongly agree]

[The following attention check was presented on next page.]

Amber, Brenda, Carrie, and Diana had tried diagnosing Schnitzler's syndrome before their admissions interview.

[Responses were recorded on the same seven-point scale as above.]

[*Second case: CONDITIONAL PROOF*]

Ade, Brad, Chris, and Dave are four undergraduate students. They have recently applied to a selective philosophy program. Multiple factors go into any application decision for this program. One of these is whether the applicant knows how to build a subproof called a conditional proof. [¶] The way to build a conditional proof is to assume the antecedent of the relevant conditional and derive the consequent within a subproof, citing all of the steps from the antecedent to the consequent. We'll call this way of building the subproof "w". [¶] Coming into their admissions interview, Ade, Brad, Chris, and Dave had each heard of conditional proofs. But none of them had ever tried building the subproofs before. Still they were excited to give it a try, even when they were informed that they would have to prove ten arguments in a row that may or may not require a conditional proof while getting no feedback as to whether they are building the proofs correctly. [¶] What follows are the admission officer's notes. Assuming that these notes are accurate, do you agree or disagree that the applicant knows how to build a conditional proof?

[The following four descriptions were counterbalanced.]

Ade: [¶] - Believes that w is the way to build a conditional proof. Has very good reason for believing this, having learned this fact from someone very experienced in formal proofs. [¶] - Correctly proved 9 out of 10 arguments that required a conditional proof. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Ade knows how to build a conditional proof.

Brad: [¶] - Believes that w is the way to build a conditional proof. Has very good reason for believing this, having learned this fact from someone very experienced in formal proofs. [¶] - Correctly proved 1 out of 10 arguments that required a conditional proof. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Brad knows how to build a conditional proof.

Chris: [¶] - Believes that w is the way to build a conditional proof. Has very poor reason for believing this, having learned this fact from someone very inexperienced in formal proofs. [¶] - Correctly proved 9 out of 10 arguments that required a conditional proof. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Chris knows how to build a conditional proof.

Dave: [¶] - Believes that w is the way to build a conditional proof. Has very poor reason for believing this, having learned this fact from someone very inexperienced in formal proofs. [¶] - Correctly proved 1 out of 10 arguments that required a conditional proof. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Dave knows how to build a conditional proof.

[Responses were recorded on the same seven-point scale as above.]

[The following attention check was presented on next page.]

Ade, Brad, Chris, and Dave had tried building conditional proofs before their admissions interview.

[Responses were recorded on the same seven-point scale as above.]

Appendix B

Stimulus Materials used in Study 2

[Participants were randomly assigned to one of two cases: TRIPLE WALLY or PASSATO-SOTTO.]

[*First case: TRIPLE WALLY*]

Amber, Brenda, Carrie, and Diana are four young ice skaters. They have recently applied to a selective school for ice-skating. Multiple factors go into any application decision for this school. One of these is whether the applicant knows how to do a rare jump called a triple Wally. [¶] The way to perform a triple Wally is to take off from the back inside edge of one foot and then land on the back outside edge of the same foot after three full rotations in the air. We'll call this way of doing the jump "w". [¶] Coming into their audition, Amber, Brenda, Carrie, and Diana had each heard of the triple Wally. But none of them had ever tried the jump before. Still they were excited to give the jump a try, even though they were informed that they would have to attempt the jump ten times in a row with no feedback from the admission officer as to whether they are doing the jump correctly. What follows are the admission officer's notes about where Amber, Brenda, Carrie, and Diana are at when it comes to the triple Wally. [¶] Given what the notes say, what do you think? Do you agree or disagree with the statement that the applicant knows how to do the triple Wally?

[The following four descriptions were counterbalanced.]

Amber: [¶] - Believes that w is the way to do the triple Wally. Has very good reason for believing this, having learned this fact from someone very experienced in ice-skating. [¶] - Did the triple Wally correctly 9 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Amber knows how to do the triple Wally.

Brenda: [¶] - Believes that w is the way to do the triple Wally. Has very good reason for believing this, having learned this fact from someone very experienced in ice-skating. [¶] - Did the triple Wally correctly 1 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Brenda knows how to do the triple Wally.

Carrie: [¶] - Believes that w is the way to do the triple Wally. Has very poor reason for believing this, having learned this fact from someone very inexperienced in ice-skating. [¶] - Did the triple Wally correctly 9 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Carrie knows how to do the triple Wally.

Diana: [¶] - Believes that w is the way to do the triple Wally. Has very poor reason for believing this, having learned this fact from someone very inexperienced in ice-skating. [¶] - Did the triple Wally correctly 1 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Diana knows how to do the triple Wally.

[Responses were recorded on the same seven-point scale in Appendix A.]

[Two attention checks were presented on the next page]

In the story, Amber, Brenda, Carrie, and Diana each believe that w is the way to do the triple Wally.

In the story, Amber, Brenda, Carrie, and Diana had each attempted the triple Wally prior to their audition.

[Responses were recorded on the same seven-point scale in Appendix A.]

[*Second case: PASSATO-SOTTO*]

Ade, Brad, Chris, and Dave are four young fencers. They have recently applied to a selective school for fencing. Multiple factors go into any application decision for this school. One of these is whether the applicant knows how to do a rare evasive maneuver called a Passata-sotto. [¶] The way to do a Passata-sotto is to drop one's hand to the floor and to lower one's body under the opponent's oncoming blade, while straightening the sword arm in order to attempt a hit on the opponent. We'll call this way of doing the maneuver "w". [¶] Coming into their audition, Ade, Brad, Chris, and Dave had each heard of the Passata-sotto before. But none of them had ever tried the maneuver before. Still they were excited to give the maneuver a try, even though they were informed that they would have to attempt the maneuver ten times in a row with no feedback from the admission officer as to whether they are doing the maneuver correctly. [¶] What follows are the admission officer's notes about Ade, Brad, Chris, and Dave and where they are at when it comes to the Passata sotto. Given what the notes say, what do you think? Do you agree or disagree with the statement that the applicant knows how to do the Passata-sotto?

Ade: [¶] - Believes that w is the way to do the Passata-sotto. Has very good reason for believing this, having learned this fact from someone very experienced in fencing. [¶] - Did the Passata-sotto correctly 9 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Ade knows how to do the Passata-sotto.

Brad: [¶] - Believes that w is the way to do the Passata-sotto. Has very good reason for believing this, having learned this fact from someone very experienced in fencing. [¶] - Did the Passata-sotto correctly 1 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Brad knows how to do the Passata-sotto.

Chris: [¶] - Believes that w is the way to do the Passata-sotto. Has very poor reason for believing this, having learned this fact from someone very inexperienced in fencing. [¶] - Did the Passata-sotto correctly 9 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Chris knows how to do the Passata-sotto.

Dave: [¶] - Believes that w is the way to do the Passata-sotto. Has very poor reason for believing this, having learned this fact from someone very experienced in fencing. [¶] - Did the Passata-sotto correctly 1 out of 10 times. [¶] Please indicate the extent to which you agree or disagree with the following sentence: Dave knows how to do the Passata-sotto.

[Responses were recorded on the same seven-point scale in Appendix A.]

[Two attention checks were presented on the next page]

In the story, Ade, Brad, Chris, and Dave each believe that w is the way to do the Passata-sotto.

In the story, Ade, Brad, Chris, and Dave had each attempted the Passata-sotto prior to their audition.

[Responses were recorded on the same seven-point scale in Appendix A.]

Appendix C

Stimulus Materials used in Study 3

[The study opened with the following instructional check.]

On the next page you'll be asked to read a very short description about a person about to attempt some activity. [¶] **Please read the description carefully.** [¶] After you read it, you'll be asked to share your thoughts about whether the person knows how to do the activity. You'll then be asked to answer various demographic questions. But, to facilitate our research, we first need to know certain facts about you. We need to know whether you take the time to read the instructions. So, in order to demonstrate that you have read the instructions, please respond to the following statement by clicking on 'N/A'. You will then be taken to the next page. Thank you very much. [¶] PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENT: Belief is voluntary

[Responses were recorded on a seven-point scale: 1 = strongly disagree, 2 = disagree, 3 = mildly disagree, 4 = mildly agree, 5 = agree, 6 = strongly agree, 7 = N/A.]

[New page]

We would like you to consider a person who is just about to attempt some activity. Call it A. [¶] Suppose that w is a specification of all the steps involved in executing A correctly. [¶] Please indicate the extent to which you agree or disagree with the statement 'THIS PERSON KNOWS HOW TO DO ACTIVITY A' assuming these different things:

[The following four descriptions were counterbalanced.]

This person has very good reason to believe that w is the way to do A, having learned this fact from an expert; AND typically this person does A correctly whenever he/she attempts it.

This person has very good reason to believe that w is the way to do A, having learned this fact from an expert; AND typically this person does A incorrectly whenever he/she attempts it.

This person has very bad reason to believe that w is the way to do A, having learned this fact from a novice; AND typically this person does A correctly whenever he/she attempts it.

This person has very bad reason to believe that w is the way to do A, having learned this fact from a novice; AND typically this person does A incorrectly whenever he/she attempts it.

[Following each description, participants indicated the extent to which they agree or disagree with the know-how statement using the same seven-point scale from Appendix A.]

Appendix D

Stimulus Materials used in Study 4

[Participants received the following instructions.]

On the next page you'll be asked to read a very short story. Try to understand the story as naturally as possible, and try to remember the story as accurately as possible. [¶] Shortly after reading the story, you will be tested on recall of the story, with word-perfect recall being the ideal.

[New page] [Participants were randomly assigned to one of four conditions.]

[***First condition: Both propositional knowledge and reliable ability present***]

The Salchow is a complex jump in figure skating. When one performs a Salchow, one takes off from the back inside edge of one skate and lands on the back outside edge of the other skate after one or more rotations in the air. Call this way of doing the Salchow "w". [¶] Janice believes that this is the way to perform the Salchow. And she believes it for very good reasons, having based her belief on the well-informed instructions of someone very experienced in figure skating. Janice is exceptional at describing the Salchow; she always gives an accurate and precise description of the steps involved. Finally, she performs the Salchow correctly nine out of ten times when she attempts it.

[***Second condition: Propositional knowledge absent but reliable ability present***]

The Salchow is a complex jump in figure skating. When one performs a Salchow, one takes off from the back inside edge of one skate and lands on the back outside edge of the other skate after one or more rotations in the air. Call this way of doing the Salchow "w". [¶] Janice believes that this is the way to perform the Salchow. And she believes it for very poor reasons, having based her belief on the ill-informed ramblings of someone very inexperienced in figure skating. Furthermore, Janice is terrible at describing the Salchow; she always gives an inaccurate and imprecise description of the steps involved. Yet she performs the Salchow correctly nine out of ten times when she attempts it.

[***Third condition: Propositional knowledge present but reliable ability absent***]

The Salchow is a complex jump in figure skating. When one performs a Salchow, one takes off from the back inside edge of one skate and lands on the back outside edge of the other skate after one or more rotations in the air. Call this way of doing the Salchow "w". [¶] Janice believes that this is the way to perform the Salchow. And she believes it for very good reasons, having based her belief on the well-informed instructions of someone very experienced in figure skating. Janice is exceptional at describing the Salchow; she always gives an accurate and precise description of the steps involved. Yet she performs the Salchow correctly only four out of ten times when she attempts it.

[*Fourth condition: Both propositional knowledge and reliable ability absent*]

The Salchow is a complex jump in figure skating. When one performs a Salchow, one takes off from the back inside edge of one skate and lands on the back outside edge of the other skate after one or more rotations in the air. Call this way of doing the Salchow "w". [¶] Janice believes that this is the way to perform the Salchow. And she believes it for very poor reasons, having based her belief on the ill-informed ramblings of someone very inexperienced in figure skating. Furthermore, Janice is terrible at describing the Salchow; she always gives an inaccurate and imprecise description of the steps involved. Finally, she performs the Salchow correctly only four out of ten times when she attempts it.

[Participants received a distractor story about autophagy, followed by three questions about the story. They then received the following instructions on a separate page.]

On the next page you'll be asked to answer six questions about the first story you read. [¶] Afterwards, you'll be asked to answer various demographic questions. [¶] Please click the indicated button below to continue.

[New Page]

It is clear that Janice knows how to do the Salchow. [Response options: Yes, this sentence appeared in the story; No, this sentence did not appear in the story.]

How confident are you in your response? [Six-point scale: very unconfident, unconfident, mildly unconfident, mildly confident, confident, very confident]

Before rotating in the air, the Salchow involves taking off from the back outside edge of one skate, and landing on the back inside edge of the other skate. [Response options: Yes, this sentence appeared in the story; No, this sentence did not appear in the story.]

How confident are you in your response? [Same six-point scale as above]

Recently, she's been working on a complex jump called the Salchow.

How confident are you in your response? [Same six-point scale as above]

Janice is a young figure skater getting ready for upcoming competition.

How confident are you in your response? [Same six-point scale as above]

Janice is definitely a great skater.

How confident are you in your response? [Same six-point scale as above]