

Supplementary Material

Empirical Cognitive Study on Abstract Argumentation Semantics

Arguments sets

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Simple reinstatements

Scientific context

- A.** Specimen A consists only of amylase. The 1972 Encyclopaedia of Biochemistry states that amylase is an enzyme. So specimen A consists of an enzyme.
- B.** A peer-reviewed research article by Smith et al. from 2006 presented new findings that amylase is not an enzyme. Therefore no specimen consisting only of amylase consists of an enzyme.
- C.** A study that the Biology Laboratory of Harvard University has published in 2011 corrects mistakes made in the study by Smith et al. and concludes that amylase is a biologically active enzyme.

Mathematical context

- A.** We are given the information that $x^2 = xy$, and that $x = 20 + \pi - e^\pi$. By dividing both sides of the first equation by x , we get that $x = y$.
- B.** By calculating $20 + \pi - e^\pi$ on my calculator, I get that $20 + \pi - e^\pi = 0$. So one cannot divide an equation by $20 + \pi - e^\pi$, because division by 0 is not allowed.
- C.** The computer program *Mathematica*, which does not make rounding errors like a simple calculator, computes that $20 + \pi - e^\pi > 0.0009$, so $20 + \pi - e^\pi$ is a positive number, i.e. $20 + \pi - e^\pi \neq 0$.

News report context

A. According to BBC, President Donald Trump shot an Asiatic lion yesterday. Asiatic lions generally have a mane. So President Donald Trump shot an animal that has a mane.

B. The website of the American Society of Animal Species explains that female Asiatic lions generally don't have a mane. So it is not right to say that Asiatic lion generally have a mane.

C. According to an article in America Today, the American Society of Animal Species is a pseudoscientific organization that is funded by a fundamentalist church and hires its staff based on church membership rather than scientific expertise. Therefore the explanations on its website cannot be trusted.

Floating reinstatements

Scientific context

A. Specimen A consists only of amylase. The 1972 Encyclopaedia of Biochemistry states that amylase is an enzyme. So specimen A consists of an enzyme.

B. A peer-reviewed research article by Smith et al. from 2006 presented new findings that amylase is not an enzyme. Therefore no specimen consisting only of amylase consists of an enzyme.

C. A study that the Biology Laboratory of Harvard University has published in 2011 corrects mistakes made in the study by Smith et al. and concludes that amylase is a biologically active enzyme.

D. A study that the Biochemistry Laboratory of Oxford University has published in 2011 corrects mistakes made in the study by Smith et al. and concludes that amylase is a biologically inactive enzyme.

Mathematical context

A. We are given the information that $x^2 = xy$, and that $x = 20 + \pi - e^\pi$. By dividing both sides of the first equation by x , we get that $x = y$.

B. By calculating $20 + \pi - e^\pi$ on my calculator, I get that $20 + \pi - e^\pi = 0$. So one cannot divide an equation by $20 + \pi - e^\pi$, because division by 0 is not allowed.

C. The computer program *Mathematica*, which does not make rounding errors like a simple calculator, computes that $20 + \pi - e^\pi > 0.0009$, so $20 + \pi - e^\pi$ is a positive number, i.e. $20 + \pi - e^\pi \neq 0$.

D. The computer program *Maple*, which does not make rounding errors like a simple calculator, computes that $20 + \pi - e^\pi < -0.0009$, so $20 + \pi - e^\pi$ is a negative number, i.e. $20 + \pi - e^\pi \neq 0$.

News report context

A. According to BBC, President Donald Trump shot an Asiatic lion yesterday. Asiatic lions generally have a mane. So President Donald Trump shot an animal that has a mane.

B. The website of the American Society of Animal Species explains that female Asiatic lions generally don't have a mane. So it is not right to say that Asiatic lion generally have a mane.

C. According to an article in America Today, the American Society of Animal Species is a pseudoscientific organization that is funded by a fundamentalist church and hires its staff based on church membership rather than scientific expertise. Therefore the explanations on its website cannot be trusted.

D. According to an article in the Guardian, the American Society of Animal Species does not exist, and the website operating under this name is a hoax website run by a comedian. Therefore the explanations on this website cannot be trusted.

3-cycle reinstatement

Scientific context

A. Specimen A consists only of amylase. The 1962 Encyclopedia of Chemistry states that amylase is not an enzyme. So specimen A does not contain any enzymes.

B. The 2003 Encyclopedia of Biochemistry states that amylase is a glycosylase. The International Institute for the Advancement of Biochemistry has published new research results in 2006 that show that all glycosylases are hydrolases. The European Biochemistry Centre has published new research results in 2008 that show that all hydrolases are enzymes. Therefore any specimen consisting of amylase contains an enzyme.

C. The 2003 Encyclopedia of Biochemistry states that the institution running under the name "International Institute for the Advancement of Biochemistry" is not a serious scientific institution, so its publications cannot be trusted.

D. The International Institute for the Advancement of Biochemistry states that the institution running under the name "European Biochemistry Centre" is not a serious scientific institution, so its publications cannot be trusted.

E. The European Biochemistry Centre states that the 2003 Encyclopedia of Biochemistry contains many erroneous assertions and cannot be trusted.