

**ERRATUM TO
EPISTEMIC IRRELEVANCE IN CREDAL NETS:
THE CASE OF IMPRECISE MARKOV TREES**

GERT DE COOMAN, FILIP HERMANS, ALESSANDRO ANTONUCCI, AND MARCO ZAFFALON

There are a number of minor glitches in the paper [1]; we have found two so far upon rereading the paper. Both are easily corrected, and have no implications for the validity of our results.

The *first mistake* concerns Eq. (21) near the end of Section 6.2. Here the multiplicands $\underline{P}(\{x_E\})$ and $\overline{P}(\{x_E\})$ of the function $\lambda_g(\mu)$ are incorrect. In fact, Footnote 20 is correct in stating that $\rho_g(\mu) = a \max\{\lambda_g(\mu), 0\} + b \min\{\lambda_g(\mu), 0\}$, where the real constants a and b do not depend on g and μ .

But further investigation shows that our identification of a with $\underline{P}(\{x_E\})$ and b with $\overline{P}(\{x_E\})$ is mistaken. What is easy to see, however, is that $b > 0$ and $a \geq 0$ because we assumed from the outset that $\overline{P}(\{x_E\}) > 0$.

And this is enough for the crucial conclusion that $\rho_g(\mu) \geq 0 \Leftrightarrow \lambda_g(\mu) \geq 0$, and therefore

$$\underline{R}_t(g|x_E) = \max\{\mu \in \mathbb{R} : \lambda_g(\mu) \geq 0\},$$

to remain perfectly valid.

The *second mistake* concerns the argumentation in the proof of Theorem 5, and in particular in the justification of (and around) Eq. (A.14). Actually, there are two glitches here that are easily corrected, and do not invalidate our conclusions. First of all, we should have written $h_3 := \mathbb{I}_{\{x_{(R \cap \downarrow t_2) \setminus \downarrow t_3}\}}$ rather than $h_3 := \mathbb{I}_{\{x_{R \setminus \downarrow t_3}\}}$. Secondly, the recursion formula for the f_k should read $f_k := \underline{P}_{\downarrow t_k}(h_{k+1} f_{k+1} | X_{t_{k-1}})$ rather than $f_k := \underline{P}_{\downarrow t_{k+1}}(h_{k+1} f_{k+1} | X_{t_k})$.

REFERENCES

- [1] Gert de Cooman, Filip Hermans, Alessandro Antonucci, and Marco Zaffalon. Epistemic irrelevance in credal nets: the case of imprecise Markov trees. *International Journal of Approximate Reasoning*, 51:1029–1052, 2010.

E-mail address: {gert.decooman, filip.hermans}@UGent.be, {alessandro, zaffalon}@idsia.ch