Some implications of sentience for understanding and assessing animal welfare
(And how the Five Domains model can help)

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Key points

1. Acknowledging sentience steers us towards the 'affective state' orientation to understanding and assessing AW

2. Importance of specific descriptions of negative experiences to accurately assess animal welfare

3. Absence of negative experiences ≠ good welfare

4. Use of '5 Domains' model emphasizes affective state and encourages specificity and comprehensiveness

1. Sentience steers us to 'affective state' orientation to AW

- Sentience = capacity to have -ve and +ve mental experiences

- Characterizations of AW should emphasize mental experiences as most relevant outcomes

- Affective state orientation: Welfare is state within animal arising from integration of mental experiences/affective states

- Versus
  - Biological Functioning: Healthy and productive
  - Natural living: Natural environment and expression of natural behaviour

2. Dissecting distress: Importance of specific terminology

- **AWS focus on "Pain & distress" or "Pain & suffering"**

- **Aim: Cover all negative bases**

- **Reality: Limit accuracy of welfare assessments**
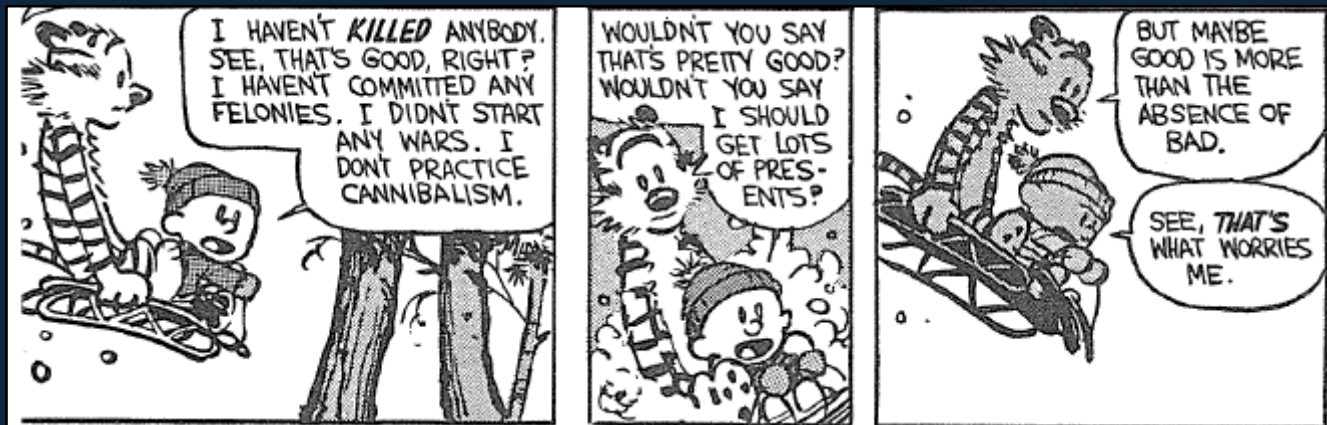
Problems with generic terms

1. Don't facilitate understanding of cause

2. Don't facilitate targeted solutions

3. Under-emphasize importance of other negative experiences *e.g. breathlessness*

4. Fail to look for/recognize evidence of other negatives

    "Pain & distress" or "Pain & suffering" → *"Pain et al."*

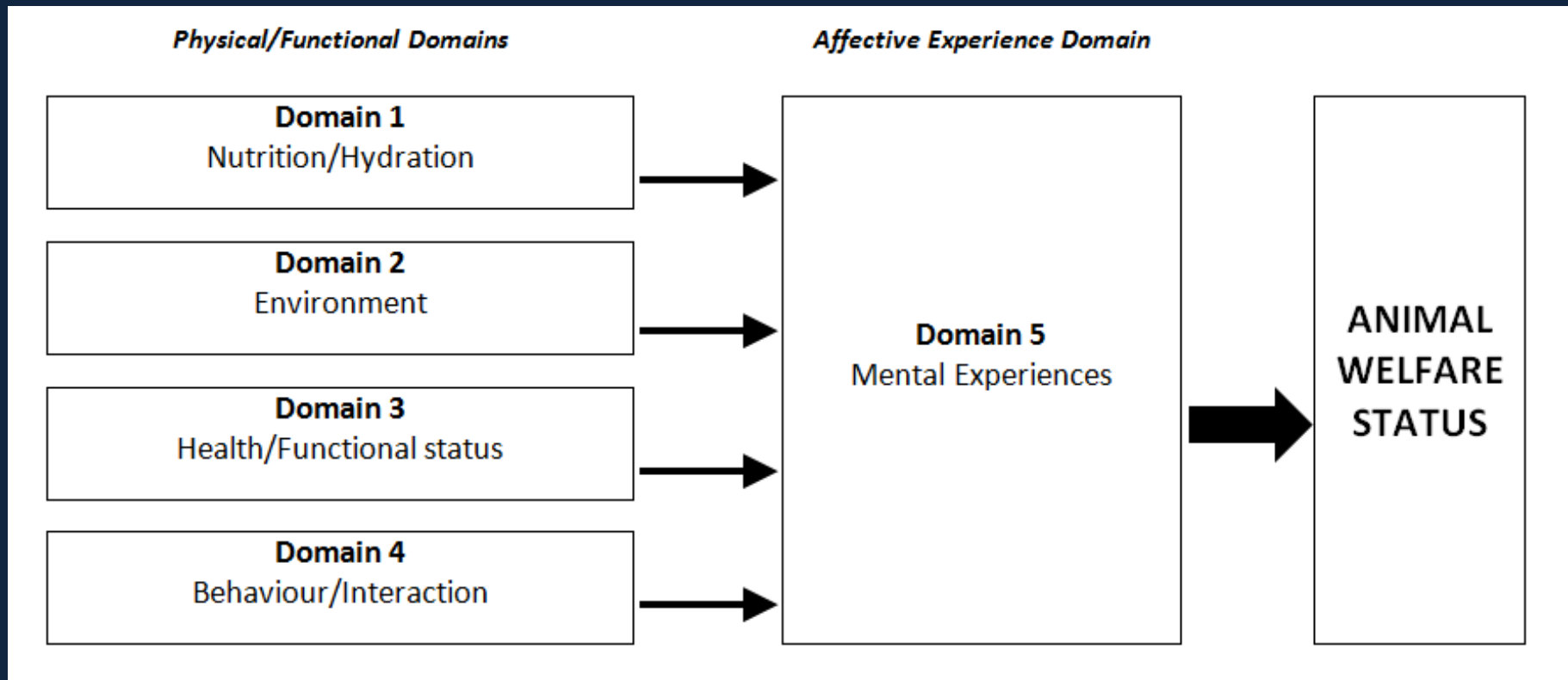# 3. Absence of negatives not sufficient for good welfare

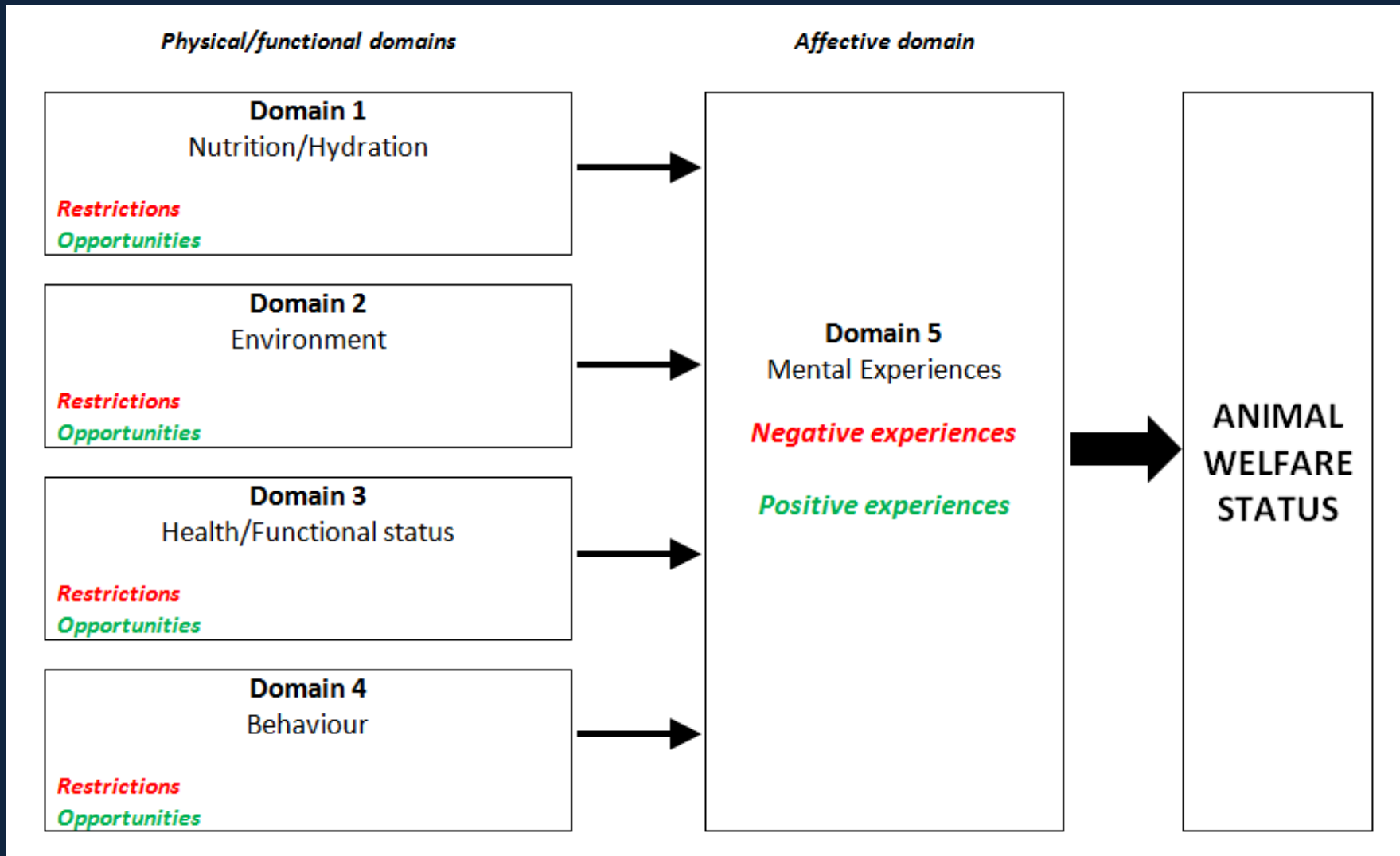**Challenges with changing paradigm include:**

- Validated indicators of +ves?

- How much +ve is enough?

- Can some –ves be offset by +ves?

Five Domains model

Five Domains model

4. Five Domains model can help

Structure encourages user to:

1. Cautiously interpret observable indicators in terms of mental/affective experiences

Example

Domain 3
Health/Physical status

Presence of:
- *Disease*
- *Injury*
- *Functional impairment*
- *Poisons*
- *Obesity/leanness*
- *Poor physical fitness*

Little or no:
- *Disease*
- *Injury*
- *Functional impairment*

Appropriate body condition
Good fitness level

Domain 5
Mental Experiences

Negative experiences:
Breathlessness
Pain
Debility/weakness
Sickness/malaise
Nausea
Dizziness...

Positive experiences:
- *Comfort of good health and high functional capacity*
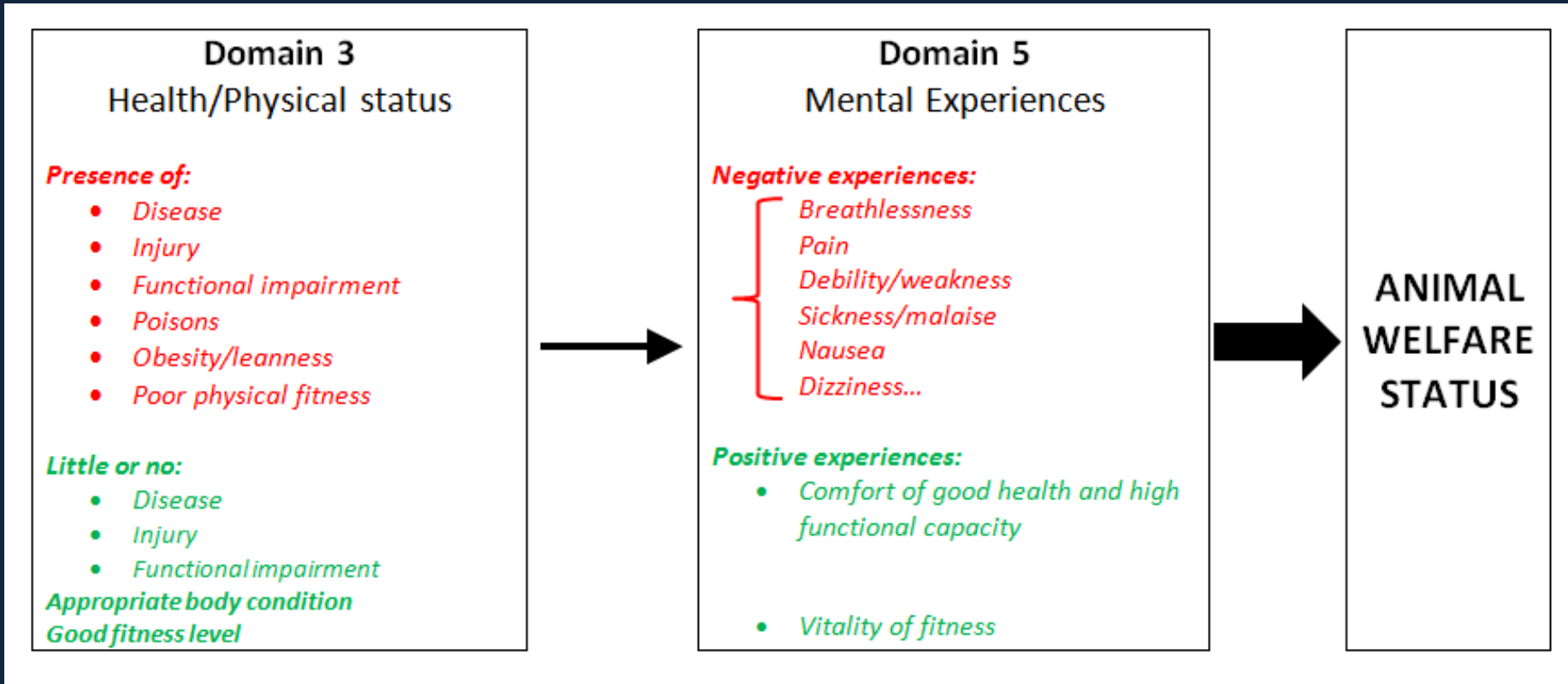
- *Vitality of fitness*

ANIMAL WELFARE STATUS

4. Five Domains model can help

Structure encourages user to:

1. Cautiously interpret observable indicators in terms of mental/affective experiences

2. Look for evidence of/absence of wide range of specific negative experiences

Examples

Domain 1
Nutrition/Hydration
- *Restricted water intake*
- *Restricted food intake*
- *Restricted salt intake*
- *Excessive food intake*

Domain 2
Environment
- *Extreme heat or cold*
- *Unnatural constancy*
- *Inappropriate sensory environment*

Domain 3
Health/Functional status
- *Acute injury*
- *Disease*
- *Functional impairment*
- *Poor fitness*

Domain 4
Behaviour/Interaction
- *Barren, unvarying environment*
- *Social isolation*
- *No choice*
- *Unable to escape*

Domain 5
Mental Experiences
- *Thirst*
- *Hunger*
- *Salt hunger*
- *Bloat discomfort*

- *Heat or cold discomfort*
- *Auditory or visual discomfort*
- *Malaise from unnatural constancy*

- *Breathlessness*
- *Pain*
- *Sickness/malaise*
- *Nausea*
- *Dizziness*

- *Boredom*
- *Frustration, anger*
- *Loneliness*
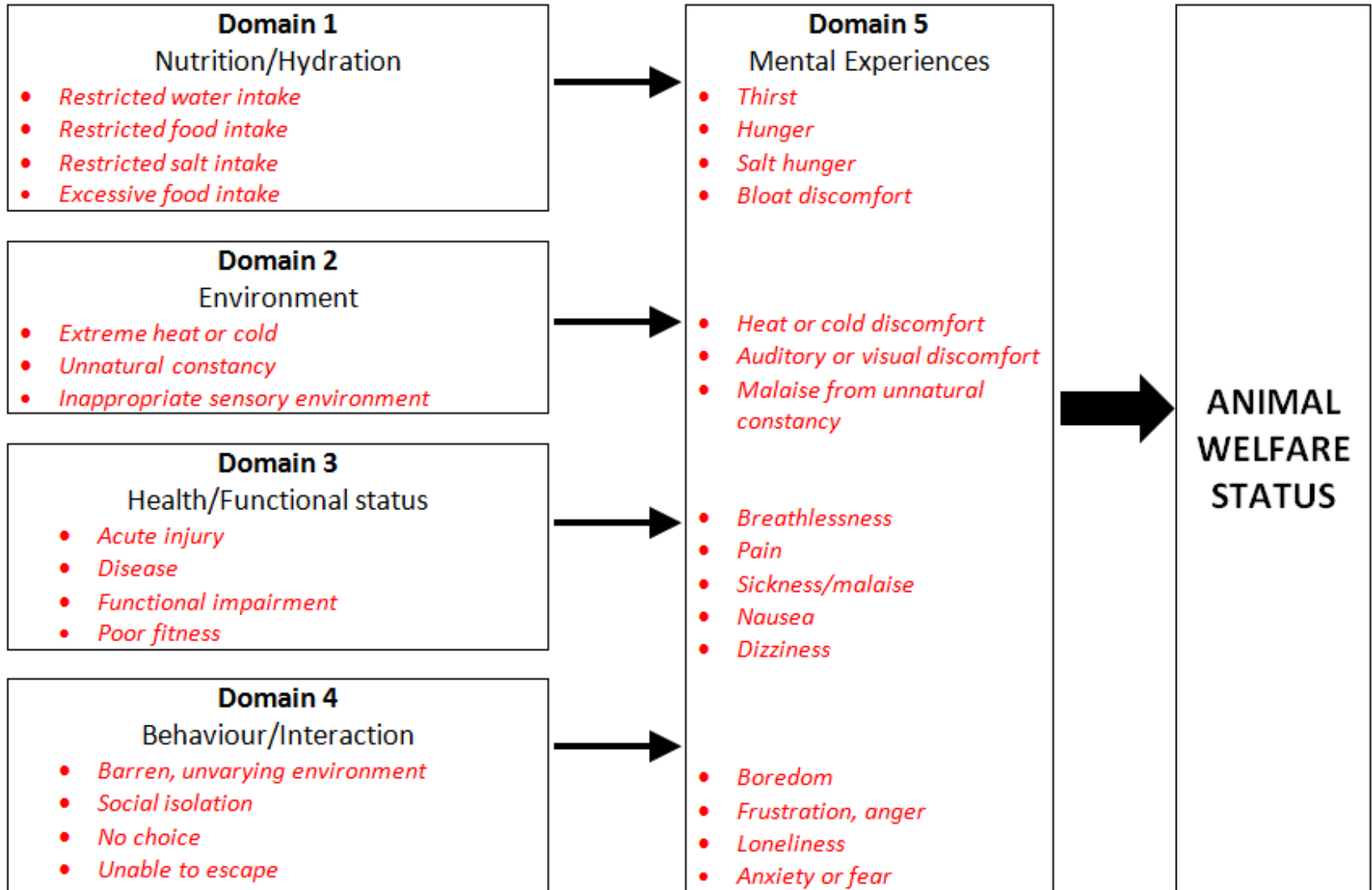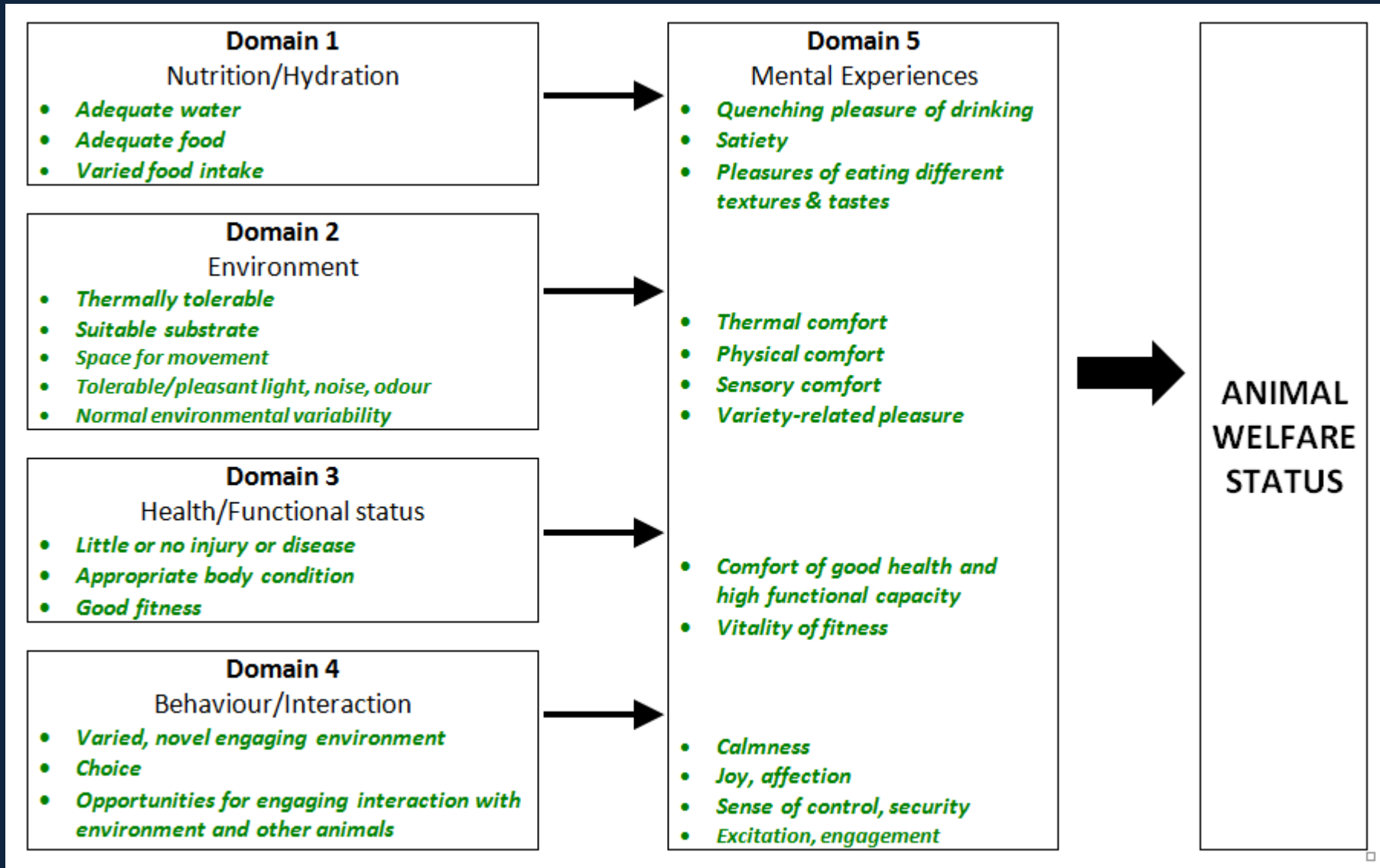- *Anxiety or fear*

ANIMAL WELFARE STATUS

4. Five Domains model can help

Structure encourages user to:

1. Cautiously interpret observable indicators in terms of mental/affective experiences

2. Look for evidence of/absence of wide range of specific negative experiences

3. Look for evidence of wide range of specific positive experiences

4. Look for ways to provide opportunities for animals to have positive experiences

Examples

Domain 1
Nutrition/Hydration
- *Adequate water*
- *Adequate food*
- *Varied food intake*

Domain 2
Environment
- *Thermally tolerable*
- *Suitable substrate*
- *Space for movement*
- *Tolerable/pleasant light, noise, odour*
- *Normal environmental variability*

Domain 3
Health/Functional status
- *Little or no injury or disease*
- *Appropriate body condition*
- *Good fitness*

Domain 4
Behaviour/Interaction
- *Varied, novel engaging environment*
- *Choice*
- *Opportunities for engaging interaction with environment and other animals*

Domain 5
Mental Experiences
- *Quenching pleasure of drinking*
- *Satiety*
- *Pleasures of eating different textures & tastes*

- *Thermal comfort*
- *Physical comfort*
- *Sensory comfort*
- *Variety-related pleasure*

- *Comfort of good health and high functional capacity*
- *Vitality of fitness*

- *Calmness*
- *Joy, affection*
- *Sense of control, security*
- *Excitation, engagement*

ANIMAL WELFARE STATUS

Conclusions

1. Affective state orientation to AW is consistent with emphasis on sentience (mental experiences)

2. AW assessments should:
   - Interpret observable indicators in terms of specific affective states
   - Look for evidence of wide range of negative and positive experiences

3. Use of '5 Domains' model supports affective state orientation <u>and</u> encourages specificity and comprehensiveness

Acknowledgements

David Mellor, Craig Johnson & Nikki Kells for discussion of ideas

Find us on @AnimalWelfareAotearoa

Recent Publications

- Mellor, D.J. 2017. Operational details of the Five Domains model and its key applications to the assessment and management of animal welfare. *Animals* 7, 60; doi:10.3390/ani7080060

- Mellor, D.J. 2016. Updating animal welfare thinking: Moving beyond the "Five Freedoms" towards "A Life Worth Living". *Animals* 6, 21; doi:10.3390/ani6030021

- Mellor, D.J., Beausoleil, N.J. 2015. Extending the Five Domains model for animal welfare assessment to promote positive welfare states. *Animal Welfare* 24: 241-253.

- Beausoleil, N.J. and Mellor, D.J. 2015. Advantages and limitations of the Five Domains model for assessing welfare impacts associated with vertebrate pest control. *New Zealand Veterinary Journal (Animal Welfare Special Issue)* 63(1): 37-43. DOI:10.1080/00480169.2014.956832.