

Walking at the edge of Social Sciences and Biomedical sciences

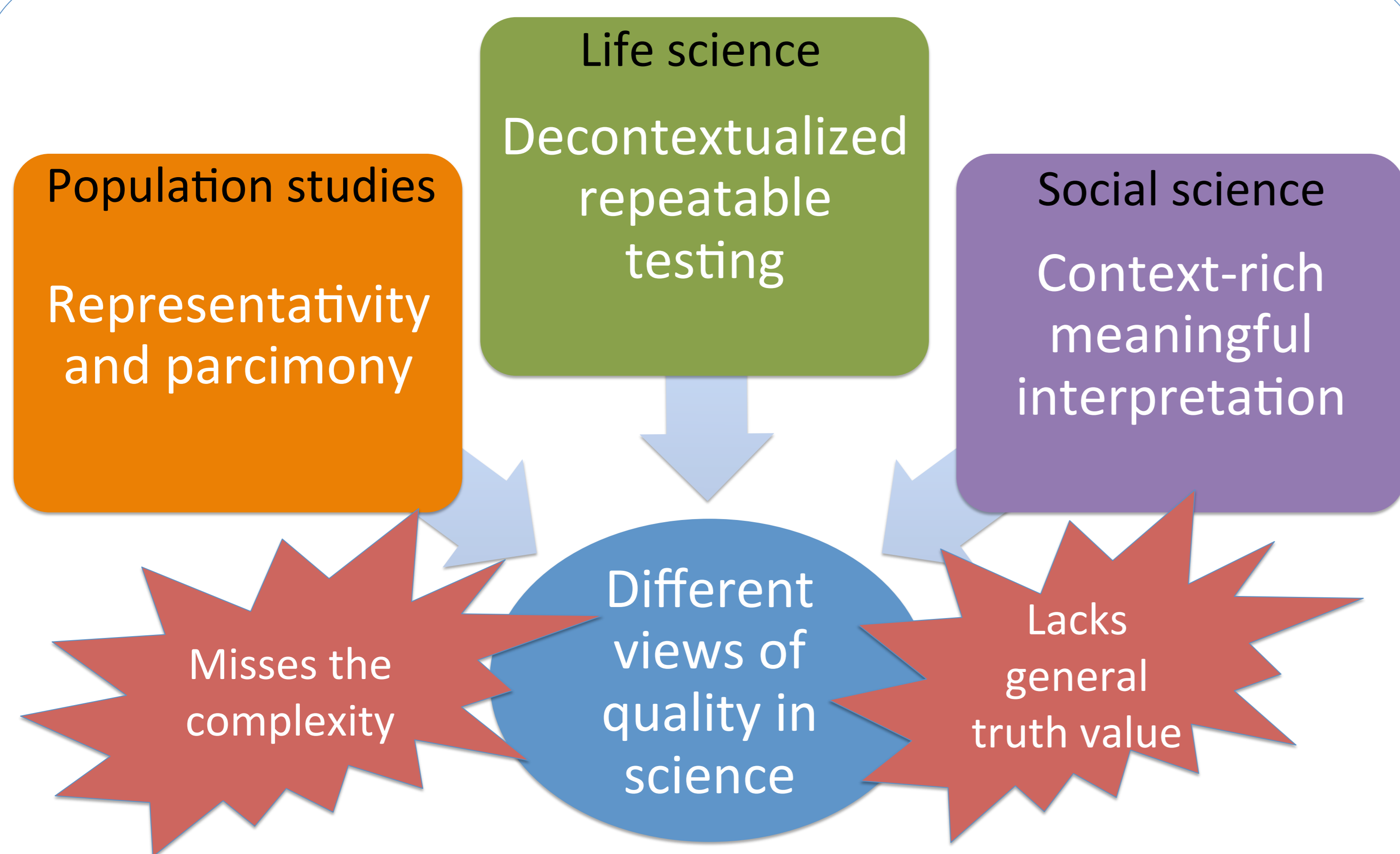
A fascinating yet tricky trek!

Nicolas ANTOINE-MOUSSIAUX¹, Stéphane LEYENS², Séverine THYS³, Aurélie BINOT⁴

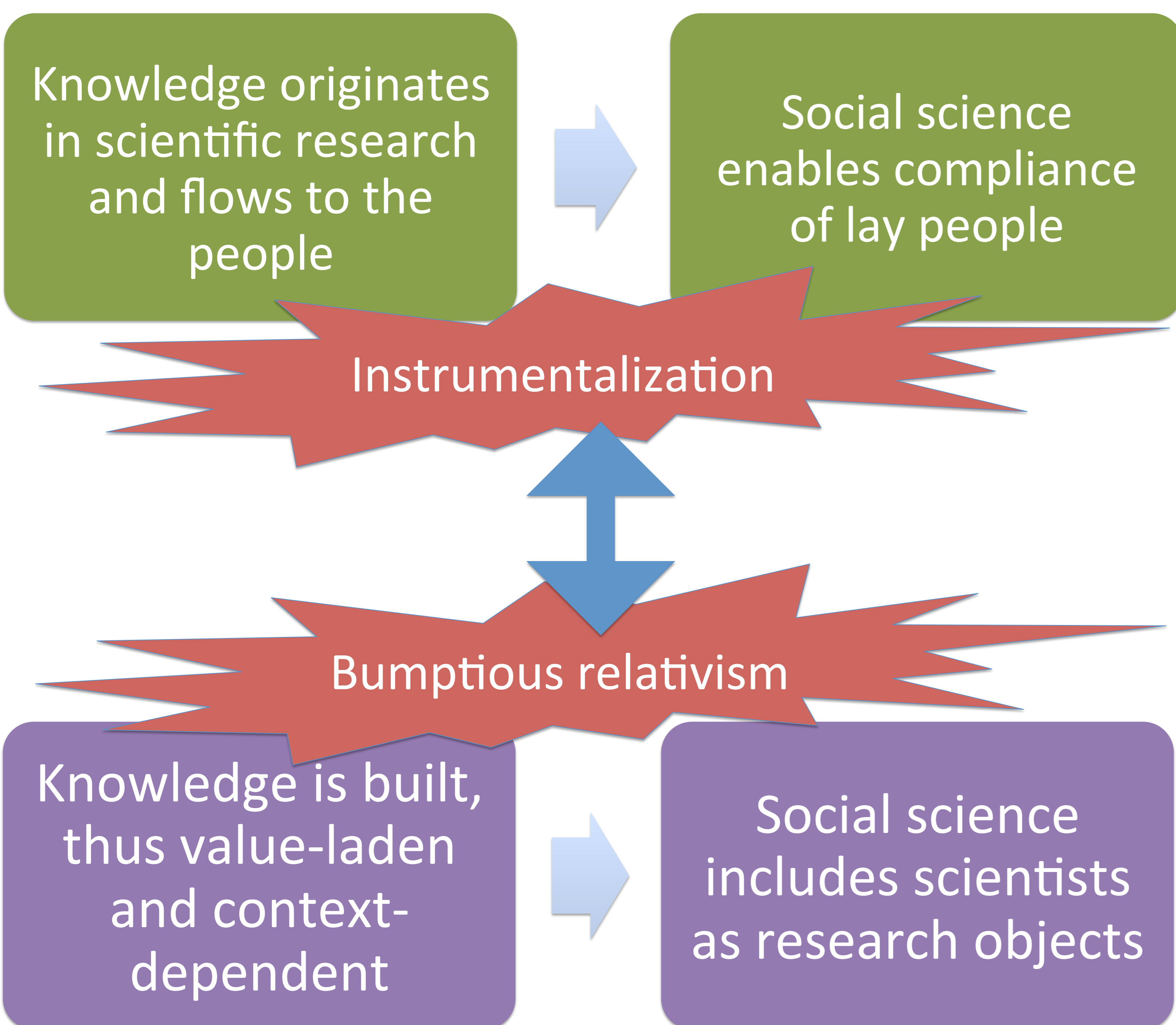
¹ Faculty of Veterinary Medicine, University of Liège, Belgium; ² Faculty of Science, Dept of Sciences, Philosophy and Societies, University of Namur, Belgium; ³ Dept Public Health, Institute of Tropical Medicine, Antwerp, Belgium; ⁴ UMR ASTRE, CIRAD, France

Introduction

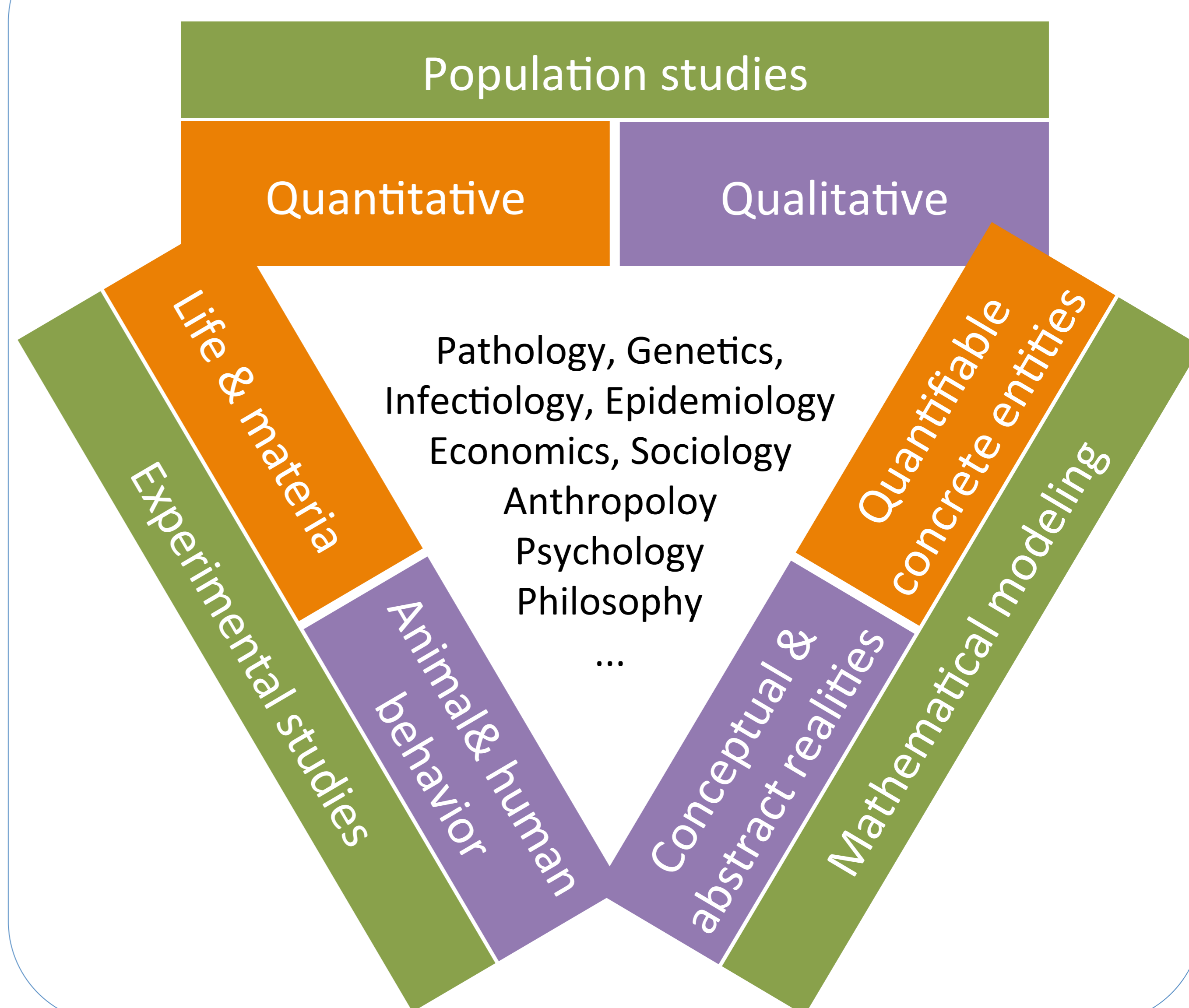
Complex health problems call for interdisciplinarity. However, major divides remain between disciplines, resulting in projects being split into work-packages, mostly running in silos. This communication proposes elements to analyse this divide, calling for dialogue to increase added value of interdisciplinarity.



Misunderstanding & Crossed accusations



Fuzzy frontiers and potential bridges



Basic epistemology for dialogue

Status of truth and aptness to reach it

The self-challenging scientific method is proposed as a way to come closer to an existing reality. Karl Popper's falsification principle does not apply in the same way to hypothetico-deductivist and interpretative frameworks. Some social scientists may defend a full relativism. Methodological rigor and transparency ultimately links these divergent frameworks.

About objectivity

Positional objectivity may be proposed as an intermediate position between a blind belief in objectivity and an overall negation of its possibility. An objective observation is one that is common to a set of observers. Complexity explains divergence between distinct perspectives on a same object.

Reductionism and holism

Complexity theory highlights problems in knowledge rather than it provides solutions. It invites to continuous and iterative round-trip between both holism and reductionism. Its main justification lies in the properties of complex systems: emergent features and non-linear interactions resulting in partial unpredictability.

Perspectives

There is a need for epistemological content in basic, specialized and research curricula. Scientists should not discover epistemological and cultural divides inside science from barriers to interdisciplinary collaboration but be trained to it and count it among their day-one skills. Recurrent opportunities for cross-fertilization should be given to young scientists inside research institutions. These needs also apply to all professionals of health practice and policy.

Dialogue needs mutual confidence and avoiding a priori value judgments. This is probably the most challenging part in a scientific world where prevail the high self-esteem of disciplines and harsh competition for recognition and funding.