Introduction (Proietti)

Everyday life provides many examples of situations where individuals being subject to social influence and peer pressure behave quite differently from how they would do in isolation. Very often influence and peer pressure lead to suboptimal decisions where individuals are all caught in a “collective mistake”. The bystander effect (Latané and Darley 1969) is a typical case in point: people in large groups often fail to act on behalf of the victim of an accident because looking at others who don’t act. By doing so they are lead to underestimate the gravity of the situation. Other popular cases of “irrational” collective dynamics are pluralistic ignorance (Miller 1987), informational cascades (Bikhchandani et al. 1992), group polarization (Moscovici and Zavalloni 1969), eco-chambers, false consensus effects as well as many others.

Most of these phenomena were brought to attention and studied by social psychologists. For some of them behavioural economics and social network theory provides insightful formal analyses, explanatory models and simulations (e.g. see Centola et al. 2005). Although these phenomena represent interesting puzzles for collective rationality, most of them got only recent attention in formal epistemology (see e.g. Hendricks 2014 and Proietti and Zenker 2014). However, formal epistemology has a significant potential in explaining and analysing these dynamics, for the specific reason that they involve first order and higher order/nested beliefs and credences (e.g. “I believe that others believe”) for which epistemic logics and bayesian epistemology provide useful formal tools that other formal approaches do not provide.

The general aim of this workshop is to present some of these dynamics, to explain their relevance for epistemology and the recent work of the authors in this area. Particular attention will be given to introducing the rich set of formal tools that help a better categorizing and comprehension of the key concepts involved. Indeed, these dynamics are usually very complex ones and many ingredient factors contribute to their emergence, e.g. belief, trust, social pressure, social proof etc. Both dynamic epistemic logics and Bayesian probabilistic methods are employed by the authors to analyse, explain and unravel these notions and thereby framing a fruitful formal analysis of the dynamics at stake.


P.Hansen, V. Hendricks. Infostorms, Springer 2014


Social dynamics and collective rationality, C. Proietti and F. Zenker eds., Synthese vol.191 (11), 2014

Virtuous and vicious consensus (Schubert)

In this paper, we distinguish between two hypotheses that could account for consensus on a question or a set of questions. The first hypothesis is that the members of the group are reliable truth-trackers, and that they for this reason have ended up with the same true beliefs. The second hypothesis, on the other hand, is that the consensus is rather due to one of various non-rational belief forming processes such as peer pressure, dogmatism, group think and other forms of biases, etc.

Whilst social epistemologists and other researchers have done a lot of work explaining how consensus might
result from rational (e.g. C.I. Lewis 1946) and non-rational processes (e.g. Sunstein 2006) less work has been
done on the question of how to distinguish between these two hypotheses. Here some issues pertaining to that
question are addressed.
We first address consensus on a single proposition. In such a case, a high degree of consensus in a group is
likely to be vicious (i.e. caused by non-rational processes) – as opposed to virtuous (i.e. caused by rational
processes) – if a) the proposition is controversial, b) the group is not more competent than other groups, and c)
we know of one or more mechanisms that would give rise to vicious coherence that the group has in common.
This is shown to be true by a simple mathematical model.
Next, we address consensus on multiple propositions – i.e. where a group converges not only on one but on a
number of different issues. We show that if these issues are probabilistically independent of each other, such
consensus is even more likely to be vicious, given a)-c).
Finally, we tentatively discuss how this analysis of virtuous and vicious consensus could be extended to other,
more complicated, scenarios.

References:

Reflecting on social influence and pluralistic ignorance (Christoff, Hansen, Proietti)

Pluralistic ignorance is a prime example of how social influence might lead to social mistakes. Loosely put,
pluralistic ignorance is a situation where a group of individuals all have the same private opinion, while at the
same time, they all show behaviors contradicting their private opinion. This type of social mistake is interesting
for several reasons, particularly; it is both fragile and robust. Pluralistic ignorance is robust in the sense that if
the context stays unchanged, the phenomenon will persist. It is fragile in the sense that if one agent reveals her
private opinion, everyone may start behaving in accordance with their private opinion. Christoff and Hansen
(2013) developed a formal logical model of social influence, based on previous work by Liu, Seligman, and
Girard (2014), capturing exactly the fragility and robustness of pluralistic ignorance and relating them to the
underlying social network representing the structure of social interaction.
However, there is one clear deficit of the model proposed by Christoff and Hansen, namely, it is assumed that
agents do not reflect on how they, and their peers, are affected by such influence. We will make up for this
deficiency by allowing agents to reflect on other agents’ behavior and thereby potentially learn about others
private opinions. Of course, this expanded model makes the notion of social influence more complex.
Moreover, it raises the question of whether the fragility and robustness of pluralistic ignorance are affected.


Cascades: Macro and Micro Perspectives (Rendsvig)

In life, we take cues from others. We learn skills through imitation and we draw abductive conclusions from
interpreted actions. Learning by imitation and social proof is a strong mechanism, so strong in fact that not only
individuals, but also groups and populations may be subject to it's consequences. As the common lemming
metaphor points out, taking cues from others may not always provide safe conduct.

In this talk, we will introduce and discuss the notion of cascades, framing such as informational domino effects
in populations. The notion will be introduced and it's importance illustrated by empirical examples, typically with
comical consequences.

Following, we will present macro and micro perspectives on cascades in populations. The macro perspective is
essential as it is at this level cascades are manifest. As the macro level dynamics arise due to information
processing at the micro level, individuals' belief revision strategies play a key role. Both perspectives have
received treatments in various fields such as formal philosophy, social psychology and economics. It is the goal
of this talk to present the common denominators from these treatments and show how they jointly explain why
well-connected, information processing humans may collectively come to jump off the same cliff that lemmings
are stupid enough to stop short of.

This paper is based on joint work with Vincent F. Hendricks, University of Copenhagen.